U.S. ARMY-BAYLOR UNIVERSITY GRADUATE PROGRAM

IN HEALTH CARE ADMINISTRATION

OUTPATIENT SATISFACTION:

A TOTAL QUALITY MANAGEMENT KEY INDICATOR

GRADUATE MANAGEMENT PROJECT

SUBMITTED TO THE FACULTY OF BAYLOR UNIVERSITY

IN PARTIAL FULFILLMENT OF THE DEGREE OF

MASTER OF HEALTH ADMINISTRATION

BY

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Customer satisfaction is a primary goal of the Total Quality Management (TQM) movement. In order to maintain satisfied customers, a reliable methodology to monitor levels of satisfaction must be employed. Organizations must constantly monitor the effects of management decisions in terms of customer satisfaction and establish benchmarks for future evaluation. No comprehensive, longitudinal study to monitor change in patient satisfaction levels has previously been undertaken at Tripler Medical Center (Tripler). This study had two purposes. First, the researcher set out to measure the current level of patient satisfaction at Tripler. Once computed, the researcher compared the findings with those recorded one year previously. This was undertaken to determine the magnitude and direction of change (if any) in patient satisfaction over the past year. The researcher employed a mail-out survey and used a quantitative research approach in answering the management problem posed. The results reveal that patients are very satisfied with the care they are receiving. Patient mean scores rose on all survey items. While no significant increases in the dependent variables were detected, one statistically significant independent variable, the dimension of Access to Care, did rise over last year, t (1143) = 3.11, p <.002.

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Access to Care, did rise since last year, $t(1143) = 3.11$, $p < .002$.

CHAPTER I

INTRODUCTION

The success of the United States Army is best evaluated by how secure United States citizens feel. This method of evaluation places customer satisfaction above all other aspects of organizational success, and is at the heart of the Total Quality Management movement. This graduate management project seeks to determine the current level of patient satisfaction at Tripler Medical Center (Tripler).

Total Quality Management (TQM) philosophy concepts first officially appeared in the Department of the Army with the publication of Army Regulation 5-1, Army Management Philosophy, dated 12 June 1992. This regulation established Total Army Quality (TAQ) as the Army's central management philosophy.

The Department of the Army firmly believes that TAQ provides the methodology, tools, and techniques to perform the systematic analysis of organizations, business and work processes to achieve requisite improvements (AR 5-1 1992). The Army has liberally adopted concepts from revered quality management authors such as Philip Crosby (1979 and 1984), W.

Edwards Deming (1986), Kaoru Isikawa (1985), Joseph Juran (1988 and 1989), and Peter Scholts (1988).

In 1992, Health Services Command, an Army major command, also began its implementation of TAQ management. However, Health Services Command was not responsible for providing the total incentive to adopt the TQM philosophy. External organizations also impacted on this decision. Great numbers of large and small organizations in both the American manufacturing and service industries have adopted TQM management philosophies. In addition, the Joint Commission for the Accreditation of Healthcare Organizations (JCAHO) mandated, as part of its agenda for change, that facilities adopt "TQM -like" approaches for continuous improvement (O'Neal 1992 and McCabe 1992). It very quickly became apparent to Tripler that it was time to join the quality team.

Background

Tripler Medical Center is a 421-bed acute and tertiary care facility that supports a local and Pacific referral population. Beyond its medical and teaching mission, Tripler operates as the headquarters for one of the Army Medical Command's eight Health Service Support Areas and is the lead agent for one of the Department of Defense's twelve medical regions.

Tripler is currently the only federal hospital in Hawaii, supporting personnel from all elements of the United States Armed Forces, as well as qualified veterans and Pacific Island Trust Territory beneficiaries located throughout the Pacific Rim.

Since TQM's inception at Tripler, the organization has established a Quality Improvement Council, issued an organizational mission and vision statement, initiated a TQM reading group, trained facilitators, modified the employee orientation process, and initiated over one dozen process action teams. In spite of this progress, Tripler is still very much in a TQM implementation phase.

Tripler has adopted the following vision statement (as reflected in the 24 August 1993 minutes of the Tripler Quality Improvement Council meeting):

TRIPLER ARMY MEDICAL CENTER

Our vision is to be the premier health care system in the Pacific Basin.

WORKING TOGETHER we will accomplish this by:

Integrating the best in modern TECHNOLOGY
Seeking innovative ways to ADAPT to the future
Achieving excellence in MEDICAL EDUCATION
Providing responsive CARING health services in peace and war

Conditions that Prompted the Study

The TQM philosophy permeates throughout Tripler. Adopted in 1992, TQM offered a strong paradigm for changing the way this military medical treatment facility operated. Tripler has purchased instructional books and materiels, dedicated thousands of man-hours to training and professional seminars, and has spent many man-hours in quality improvement processes throughout the hospital. A formal Quality Improvement Council has been established and Process Action Teams (PATs) have been chartered. In light of these changes, it becomes obvious that Tripler has invested thousands of dollars in developing its move to TQM.

Unfortunately, these costs and expenditures were not captured or were poorly documented. Thus, it becomes difficult to calculate the cost of Tripler's quality initiatives. While determining the cost of implementing TQM at Tripler is desirable, the command is more interested in determining the **impact** of what we have already done in terms of customer satisfaction.

One of the tenant goals of TQM is meeting, or exceeding, customer expectations (Berry 1991). The patient survey is one tool to measure success in exceeding these expectations. In January of 1993, Major Dorothy Smith developed and implemented a tool to assess baseline sources and levels of outpatient satisfaction. She used the data

obtained from Tripler patients to make recommendations about future management directions aimed at increasing these levels of satisfaction reported by Tripler patients (Smith 1993).

Statement of the Management Goals

The Tripler leadership has two primary goals. The first goal is to determine the current level of outpatient satisfaction. The second goal is to determine if our quality effort has been effective over the past year. Given the recent inception of TQM at Tripler, no one has undertaken a large scale longitudinal study to address these concerns. The commander asked that this project be undertaken, in large part, to satisfy these two central goals.

A baseline evaluation survey was conducted one year ago at Tripler by Major Dorothy Smith. The results from that evaluation will serve as the yardstick against which Tripler's current efforts may be measured. Major Smith's work provides nothing less than a clear and logical blueprint for the current researcher to build upon. The Tripler leadership has asked me to reinitiate her methodology to assess the current level of patient satisfaction and ascertain if current management efforts are resulting in higher levels of patient satisfaction.

Literature Review

Current periodicals are replete with articles dealing with all aspects of TQM. Indeed, there are several periodicals devoted exclusively to the quest for continuous quality improvement. Likewise, volumes of books have been penned on nearly every aspect of TQM imaginable. Professional societies such as the American Society for Quality Control and others have been formed for no other purpose than to promote quality control and continuous quality improvement principles.

Names such as Deming, Crosby, and Juran, evoke the very thought of TQM in the minds of many leaders in today's manufacturing and service industries.

Total Quality Management

I will not state all the tenants and concepts associated with TQM. Joseph R. Jablonski (1992) offers a basic definition of TQM appropriate for presentation here: "A cooperative form of doing business that relies on the talents and capabilities of both labor and management to continually improve quality and productivity using teams." Readers should be mindful of several key concepts. TQM is a customer driven, process focused, cross discipline, fact-based, management philosophy that relies on prevention versus inspection and values customer feedback. TQM is a

never-ending process focused on internal and external customer satisfaction measured by statistical tools (Kirk 1992).

TQM Applied to Health Care

A survey conducted by Hospitals magazine and the ServiceMaster Company revealed that almost 60 percent of 781 responding CEOs say that they have a TQM/Continuous Quality Improvement (CQI) program up and running, while 75 percent of those without a program say they plan to start one within the next fiscal year. Projections based on this survey indicate that approximately 3,100 hospitals with 50 or more beds have TQM programs in place, according to Ben Gentile, director of research and planning for American Hospital Publishing Inc (Eubanks 1992).

Additionally, these CEOs feel that TQM is an important event in their careers; in fact, 60.3 percent say that it is the most important thing they had ever done (Eubanks 1992). While many hospitals seem well on their way to implementation, the acceptance by HMOs seems to be less enthusiastic. A recent survey of HMOs suggests that the managed care industry is in the early phases of exploration of modern quality management (Berwick, Baker, and Kramer 1992).

Whether an organization is fully committed to TQM or

not, industry experts agree that the cost of poor quality cannot be ignored. Experts estimate that, in general, these tend to be 40 to 50 percent of the total production costs. These costs have contributed to the number of organizations who have turned to TQM for quality improvement, and hence, cost reduction through process improvement (Tishman 1992).

TQM experts espouse various approaches to the application of these concepts to health care organizations. One approach involves the formation of strategic objectives which are tied to measurable goals. Goals should be developed in each of the following three areas: 1) customer satisfaction (for example, patient satisfaction, regulatory compliance, physician involvement); 2) patient care outcomes; and 3) hospital operations.

> Ultimately, the governing body should review key indicators of hospital-wide performance in each of these areas:
> 1. Patient and other customer satisfaction
> 2. Quality of patient care
> 3. Morale of physicians and employees
> 4. Market share by major market segments, and
> 5. Financial results by major business area
> (MaCabe 1992).

Regardless of specific approaches attempted, an organization must first seek to grasp a firm understanding of both its internal and external customers. Customers generate requirements which must be translated into a quality design. Casalou (1991) believes that this quality design is developed into an operational plan along with the processes

necessary to create the service or product. "Customer satisfaction and needs are constantly monitored and drive the entire process. Periodically, the organization must step back and examine its progress from a broad perspective and focus necessary resources on continuous improvement" (Casalou 1991).

Challenges Implementing TQM

Countless authors express the need for hard work, commitment, patience, and thoughtful reflection when implementing a TQM process into existing organizational structures. Remarks made by Monty Lynn and David P. Osborn (1991) typify advice available in the literature. The first observation the authors offer is that change will not occur unless a felt need for change exists.

Second, leaders are required to continuously remind personnel at all organizational levels that TQM is not a program or a simple addition to current operations, rather it represents a change in management philosophy. Third, this management change has to move sequentially, down organizational levels, rather than simultaneously across them.

Fourth, although mentors (internal and external) are extremely helpful, the staff must eventually become self-sufficient experts in TQM methods. Fifth, such change

requires organizational commitment to high quality training, and patience in learning. Sixth, theses changes represent a long-term approach that would not manifest overnight.

Seventh, knowing who to train first (medical staff versus administrative) and when to expand this training to external groups (suppliers) is problematic and challenging. Eighth, even though there are many TQM books and experts, many organizations adopt a final approach that is uniquely their own. Finally, Lynn and Osborn (1991) suggest that networking with other hospitals implementing TQM ideas is very desirable. One hospital may benefit from another's experience in using various quality management processes.

Customer Focus

Identifying, then focusing on the customer is a key task. There are several types of customers: 1) ultimate customers, in the case of health care organizations, the patients and their families; 2) intermediate customers such as referring physicians, corporations, business coalitions, health maintenance organizations (HMOs), preferred provider organizations (PPOs), and other entities that direct the ultimate customers; and 3) internal customers, the people within the organization who serve one another to create the services and products for the ultimate customer (Gaucher and Lyons 1993). The scope of this management study is

restricted to one type of external customer, the outpatient.

Deming (1986) argues that a successful business will do more than minimally satisfy the customer; it will adjust its products and strive to exceed the needs of customers. Customer orientation is an endless process, and requires ongoing interaction with customers.

Juran (1989) contributes to this emphasis on customer satisfaction. He sees "fitness for use" as the most vital quality function. Fitness for use may be determined by the features of the product which the customer finds beneficial. No matter how technically effective a service is, its benefits will be limited if it does not meet the needs of the customer. One of the best ways to improve quality is to rely on customers' judgments to identify opportunities for improvement (Shackelford 1993 and Robbins 1990).

Under traditional quality assurance, we do not ask our customers what they think quality is. Now we are asking questions like: "What do you want?", "How can we assist you?", "What is your vision of quality?" (Tishman 1992).

Customer Satisfaction Trends

Customer satisfaction studies began to appear in health care literature in the late 1950s as "consumerism," "patient advocacy," "guest relations," and "service quality" became watch-words in service/health industries. Consumer

demands for participation and for changes in health care decision-making have only occurred in earnest in the past decade.

While client satisfaction studies have been conducted since the Nightingale days, data has not routinely or consistently been shared with the consumer, and frequently not been used to monitor trends, or to change and improve care (Meisenheimer 1991).

Yet, consumer satisfaction remains central to the strategy of marketing-oriented organizations since the purpose of marketing is to satisfy consumer needs efficiently, thereby generating the profits necessary for the organization to survive and grow. Return customers, positive word-of-mouth advertising, and organization loyalty are generally assumed to be enhanced by consumer satisfaction (McMillian 1987).

McMillian explains that marketers and administrators are keenly aware that consumers make decisions based on their perception of reality, not on objective measures of reality. He further reveals that since health care quality is so difficult for patients to assess, the provider has both a responsibility and an opportunity to influence patients' perception of quality care. He recommends this be done by presenting tangible evidence, such as effective verbal and non-verbal communication or facility design, for

patients to use as surrogate measures of care quality. Evidence reveals that consumers judge quality primarily through a deduction process based on the total impression created by the tangible evidence (McMillian 1987).

Obtaining Customer Satisfaction Data

Customer data exists in many forms and in several locations. Frank Baker (1983) suggests that there are seven basic data sources for patient information from which data may be extracted: (1) direct observation, (2) clinical records, (3) abstracts from records, (4) professional and administrative staff surveys, (5) patient satisfaction surveys, (6) significant other surveys; and (7) population surveys. Baker reveals that each source of data has associated advantages and disadvantages.

I will not relate what Baker saw as the advantages and disadvantages of each and every one of these methods. However, one key approach in determining which data sources to pursue involves the availability of resources. According to Baker, most of these methodologies involve the outlay of extensive resources. One approach, the patient survey, provides rich patient information that can be relatively inexpensive.

Investigators have several methods of surveying patients at their disposal. In considering which approach

should be used, Smith (1993) considered three basic types. These methods included the mail survey, telephonic survey, and personal interview. She explored literature that suggested personal interviews were labor intensive and relied on a face-to-face-approach that may be influenced by personal and environmental factors, thus influencing the respondent and possibly biasing the response. Telephone interviews are also very labor intensive, and may require multiple attempts to reach the subjects. Interviews are normally undertaken at night or on the weekends when respondents are at home.

While both the personal and telephonic interview approaches may ensure high response rates, the negative aspects tend to outweigh the positive.

> Walker and Restuccia (1984) examined the differences between telephone and mail surveys in terms of logistics of survey administration, response rates, costs incurred, representativeness of samples obtained, and the potential for biased responses. The mail survey was found to be preferable over the telephone survey in terms of cost, lower chance of biased responses, and the assurance of confidentiality (Smith 1993).

Respondents to mail surveys, however, may complete the survey at their leisure, or not at all. Smith (1993) sent out a letter announcing the survey, followed by the actual survey, and reinforced later by a follow-up letter. The corresponding high level of return (61 percent) supports the literature that suggests these measures can facilitate high

return rates (Walker & Restuccia 1984, and Nelson, Hays, Larson, & Batalden 1989).

Utility of Surveys

Today, patient attitudes toward hospital services have gained renewed importance. Previously, administrators focused on the scientific development and validity of such patient surveys. Currently, however, they are less concerned about the surveys' development and more interested in their use as evaluation and marketing tools to identify and overcome problems with patient care, thereby building loyalty to the organization.

Administering patient surveys routinely during the year can facilitate the establishment of longitudinal data that allows managers to focus on specific patient care issues. The result is maintenance of market share and a better financial standing (Lemke 1987).

Berry (1991) recommends that organizations survey customer perceptions directly and attempt to determine their basic needs and satisfaction levels as they relate to the organization's business. These results provide a baseline or starting point against which one may measure future improvement. In addition, previously unidentified areas of concern will emerge that should be further studied and addressed through the TQM process.

Administering customer surveys is of vital importance. Given the basic definition of quality as meeting customers' needs and reasonable expectations, one must first obtain an accurate understanding of what the customers need and expect. Organizational leadership must recognize the gap between our performance and what the customer requires if they are going to properly target improvement activities.

Organizations should supplement annual customer surveys during the year with focus groups, brief self-mailer point-of-contact surveys (comment cards), and the like (Berry 1991). Jablonski agrees that the customer survey provides an important assessment tool. He believes it presents an opportunity to convey the leaderships' concern for customer satisfaction and their appreciation for the customers business. Jablonski wonders how many times a valued customer is lost because of some small detail or a minor price difference has caused them to move to a competitor. The customer survey takes the guess work out of determining exactly what the customer expects from an organization (Jablonski 1990).

If deficiencies in an organization's performance surface during the discussion, that organization would do well to open a dialog with the customer to let them know the organization is taking positive steps toward correcting the deficiencies. Keeping customers informed of ongoing

progress shows them the organization is interested in their concerns and interested in retaining them as valued customers (Jablonski 1990 and Bader 1993).

Common Survey Errors

Current literature offers a word about common survey errors against which to guard. David Futrell (1994) describes two sampling and eight measurement errors that typically manifest in survey literature. He argues that most people who conduct surveys attempt to minimize sampling or measurement errors, but seldom work to minimize both. Further, he states that if either of these sources of error are ignored, the total survey error may be substantial.

> There are two common sampling errors:
> - Failing to use statistical sampling methods
> - Ignoring nonresponses
>
> There are eight common measurement errors:
> - Failing to assess the survey's reliability
> - Treating customer perceptions as objective measures
> - Treating surveys as an event, not a process
> - Asking nonspecific questions
> - Failing to ask all the questions
> - Using incorrect or incomplete data analysis methods
> - Ignoring the results
> - Using results incorrectly (Futrell 1994).

The author states that these 10 concerns should not discourage organizations from utilizing surveys. Each survey may not be able to eliminate all possible sources of bias. However, having the ability to recognizes a survey's

strengths and weaknesses allows the leadership to make proper decisions from the obtained results.

This review demonstrates the importance of using customer satisfaction feed-back as a key indicator to assess the success of TQM efforts. Clearly, the literature suggests ways of obtaining customer feed-back, demonstrates the values of such information, cautions against erroneous interpretation, and underscores its importance to the total quality movement that has enveloped American industry today.

Purpose Statement

The purpose of this study is twofold: first the study will determine the current level of patient satisfaction; second, it will allow for a comparison of current results with those obtained during the baseline year. A primary aim of the hospital leadership is to shift management focus from a reactive mode to a proactive approach to maximize patient satisfaction. This study will aid this process. The objectives of this study are:

1. To administer a questionnaire to obtain data regarding each patient's level of self-reported satisfaction.

2. To identify the dimensions of care rendered that cause the most satisfaction and dissatisfaction.

3. To assess the difference, if any, between the level

and intensity of patient satisfaction of the baseline year and current year findings.

4. Report the findings and make recommendations to the hospital leadership to facilitate positive change in the way the staff provides care at Tripler.

This study will not engage in a theoretical debate regarding the constructs (or dimensions) of patient satisfaction. The leadership at Tripler readily accepts the dimensions of Access, Physical Environment, Interpersonal Care, Communications, Choice and Continuity, Technical Quality, and Outcomes, that have been incorporated into the current survey vehicle as developed and implemented by Major Smith in 1993. It is sufficient to say that significant discord exists in the literature. It is beyond the scope of this study to address these theoretical concerns.

CHAPTER II

METHODS AND PROCEDURES

I employed a quantitative methodology for this management project. To facilitate comparison with the base-year data, this study mirrored, as much as possible, the methodology used to gain that information. Using a similar methodology and procedure reduced the potential for introducing extraneous variables into the study that may have influenced the way a patient responded to the survey instrument.

Research Plan

The first milestone in this process involved gaining command approval for the project. The researcher briefed the Commander, Tripler Medical Center and the Chief of Staff (Baylor Preceptor). Both individuals agreed on the validity and necessity of performing the management project.

The researcher considered the following areas of development as paramount to successful completion of the project:

1. Articulate a conceptual framework (model) for the management project.

2. Calculate the population and determine the sample size required for meaningful interpretation.

3. Mail introductory letter announcing the survey to the randomly drawn sample population.

4. Distribute the original survey.

5. Collect and analyze data.

6. Present findings and recommendations.

I established the following time line in order to assure timely completion and reporting of the project data.

- November 1993 - Gain project approval from Baylor
- December 1993 - Identify subjects and mail letter
- January 1994 - Mail surveys
- February 1994 - Receive completed surveys
- March 1994 - Analyze data and document findings
- April 1994 - Brief command group and QIC on results
- May 1994 - Submit completed GMP

Conceptual Model

Current and past literature have examined patient satisfaction (amounting to perceived quality) by a host of measures. The measure employed here is a mailed survey of self-reported outpatient satisfaction (see Smith 1993 for an extensive discussion on the appropriateness and development

of this vehicle). The leadership of Tripler has adopted one particular survey vehicle as its primary means of obtaining this data.

I hypothesize that the arrival of TQM at Tripler has had a significant impact on patient satisfaction. Further, this impact will be evidenced by an altered level of overall patient satisfaction. The Tripler leadership views TQM as a change agent for adaption to the future. Figure 1 displays this idea.

Figure 1. Conceptual Model of Patient Satisfaction

Survey Instrument

A copy of the survey is located at Appendix 1. The survey is an adaptation of the United States Army Health Care Studies and Clinical Investigation Activity entitled: Satisfaction with Medical Care Survey, survey control number: PERI-AO-92-18, RCS: MILPC-3. The adapted survey contains 58 total questions. The five questions pertaining to overall patient satisfaction constitute the dependent

variables and are presented below.

1. "Overall, how would you evaluate the health care at TAMC?" (survey question number 2)

2. "I am very satisfied with the medical care received at TAMC." (survey question number 37)

3. "There are some things about the medical care I receive at TAMC that could be better." (survey question number 38)

4. "The medical care I receive at TAMC is just about perfect." (survey question number 39)

5. "I am dissatisfied with some things about the medical care I received at TAMC." (survey question number 40)

These questions were rated on a 5-point bipolar semantic scale anchored at the extremes.

Thirty-three questions measure responses to specific attributes of patient care and are the independent variables. These attributes are categorized into the following dimensions: Access to Care, Physical Environment, Finances, Interpersonal Care, Communications, Choice and Continuity, Technical Quality, and Outcomes. The researcher scored these questions the same as the five global questions.

Eighteen questions pertained to patient characteristics and patient utilization. Patient characteristic data requested consisted of age, gender, racial background, marital status, health status, military pay grade,

beneficiary category, and service component. Patient utilization data requested consisted of length of time one received care at Tripler, percentage of care received at Tripler, reasons one receives care at facilities other than Tripler, waiting time from time making appointment to day of visit, waiting time to see the provider, number of admissions, number of outpatient visits, and most frequently used clinics. The last three questions were open ended questions.

Instrument Reliability

Zero-order Correlation Matrix

This instrument is both valid and reliable. Table 1 displays a Pearson zero-order correlation matrix for the dependent variables. All correlation coefficients were significant at least at the $p < .02$ level.

Randomized Blocks ANOVA & Cronbach's Alpha

Next, the researcher computed several Randomized Blocks ANOVAs for each of the dimensions of patient satisfaction in order to derive Cronbach Alpha coefficients. These alpha coefficients determined the stability (or consistency) of the ratings on the survey items that measured the different aspects of patient satisfaction (Cronbach 1951). The coefficients were exceptionally high for all dimensions and

TABLE 1. Pearson Zero-order Correlation Matrix for Dependent Variables

Variables (a)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. Convenience of location	1.00															
2. Hours of operation	0.48	1.00														
3. Specialty care	0.33	0.48	1.00													
4. Hospital care	0.41	0.54	0.61	1.00												
5. Emergency care	0.35	0.46	0.46	0.59	1.00											
6. Appointments by phone	0.18	0.34	0.39	0.36	0.27	1.00										
7. Wait time at office	0.24	0.42	0.43	0.42	0.34	0.45	1.00									
8. Wait time for appointme	0.27	0.39	0.39	0.42	0.33	0.54	0.56	1.00								
9. Information by phone	0.25	0.40	0.40	0.45	0.37	0.37	0.37	0.43	1.00							
10. Medical care	0.35	0.54	0.54	0.62	0.57	0.36	0.45	0.53	0.53	1.00						
11. Overall cleanliness	0.24	0.38	0.37	0.43	0.29	0.25	0.31	0.27	0.26	0.37	1.00					
12. Location of services	0.47	0.50	0.45	0.49	0.37	0.26	0.33	0.35	0.36	0.49	0.52	1.00				
13. Wait/treatment areas	0.31	0.45	0.42	0.46	0.40	0.30	0.42	0.34	0.38	0.47	0.57	0.60	1.00			
14. Protection against expe	0.20	0.25	0.37	0.35	0.25	0.14	0.20	0.27	0.27	0.36	0.31	0.36	0.38	1.00		
15. Care w/o financial probl	0.24	0.29	0.40	0.41	0.30	0.19	0.23	0.30	0.33	0.42	0.32	0.41	0.40	0.84	1.00	
16. Doctors and medical sta	0.31	0.46	0.48	0.52	0.46	0.32	0.54	0.41	0.42	0.52	0.45	0.42	0.56	0.31	0.34	1.00
17. Admin staff/receptionist	0.29	0.46	0.41	0.42	0.36	0.38	0.49	0.39	0.37	0.43	0.42	0.36	0.50	0.24	0.25	0.68
18. Personal interest shown	0.29	0.48	0.52	0.55	0.46	0.34	0.52	0.45	0.47	0.55	0.38	0.41	0.51	0.31	0.33	0.78
19. Respect and privacy	0.27	0.48	0.48	0.52	0.42	0.32	0.48	0.45	0.43	0.52	0.44	0.41	0.49	0.34	0.36	0.74
20. Reassurance and suppor	0.29	0.49	0.54	0.56	0.46	0.33	0.50	0.45	0.47	0.55	0.38	0.42	0.50	0.32	0.35	0.77
21. Time during visit	0.36	0.51	0.51	0.48	0.43	0.36	0.52	0.45	0.42	0.51	0.35	0.42	0.50	0.24	0.27	0.68
22. Explanation of procedur	0.28	0.44	0.44	0.49	0.42	0.30	0.42	0.43	0.42	0.49	0.35	0.41	0.46	0.26	0.29	0.66
23. Advice to stay healthy	0.27	0.43	0.41	0.46	0.40	0.26	0.37	0.39	0.46	0.48	0.31	0.41	0.46	0.25	0.28	0.59
24. Attention to what you s	0.32	0.47	0.55	0.54	0.44	0.35	0.49	0.47	0.50	0.55	0.38	0.40	0.49	0.31	0.32	0.72
25. Doctors to choose from	0.27	0.38	0.41	0.39	0.34	0.34	0.46	0.44	0.41	0.43	0.28	0.32	0.39	0.28	0.30	0.50
26. See doctor of choice	0.28	0.37	0.43	0.41	0.36	0.41	0.50	0.45	0.40	0.44	0.28	0.31	0.37	0.20	0.25	0.52
27. Choosing a personal do	0.24	0.33	0.40	0.34	0.29	0.34	0.40	0.39	0.41	0.37	0.22	0.30	0.32	0.17	0.21	0.43
28. Examination and diagno	0.28	0.46	0.52	0.51	0.40	0.34	0.46	0.43	0.42	0.52	0.37	0.39	0.49	0.26	0.28	0.68
29. Skill - doctor	0.28	0.49	0.52	0.52	0.45	0.35	0.47	0.45	0.46	0.57	0.41	0.44	0.52	0.36	0.37	0.67
30. Skill - other staff	0.18	0.29	0.34	0.36	0.31	0.19	0.26	0.29	0.34	0.37	0.20	0.28	0.31	0.11*	.13**	0.41
31. Thoroughness of treatm	0.32	0.45	0.53	0.54	0.46	0.36	0.47	0.44	0.46	0.55	0.39	0.43	0.53	0.29	0.31	0.70
32. How much you are help	0.33	0.44	0.54	0.52	0.44	0.35	0.49	0.48	0.44	0.56	0.36	0.47	0.52	0.34	0.36	0.69
33. Overall quality of care	0.27	0.45	0.51	0.52	0.45	0.35	0.50	0.44	0.42	0.54	0.39	0.44	0.49	0.35	0.36	0.68

TABLE 1 (CONTINUED). Pearson Zero-order Correlation Matrix for Dependent Variables

Variables (a)	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33
17. Admin staff/receptionists	1.00																
18. Personal interest shown	0.65	1.00															
19. Respect and privacy	0.61	0.75	1.00														
20. Reassurance and support	0.61	0.85	0.79	1.00													
21. Time during visit	0.62	0.74	0.69	0.75	1.00												
22. Explanation of procedures	0.53	0.70	0.64	0.72	0.69	1.00											
23. Advice to stay healthy	0.49	0.65	0.61	0.66	0.64	0.72	1.00										
24. Attention to what you say	0.59	0.79	0.69	0.79	0.75	0.76	0.73	1.00									
25. Doctors to choose from	0.44	0.56	0.51	0.57	0.55	0.51	0.48	0.58	1.00								
26. See doctor of choice	0.46	0.57	0.55	0.57	0.60	0.52	0.49	0.57	0.76	1.00							
27. Choosing a personal doctor	0.39	0.48	0.47	0.48	0.51	0.47	0.48	0.51	0.68	0.81	1.00						
28. Examination and diagnosis	0.55	0.73	0.65	0.71	0.64	0.66	0.60	0.73	0.58	0.57	0.51	1.00					
29. Skill - doctor	0.56	0.71	0.66	0.70	0.64	0.65	0.60	0.70	0.60	0.57	0.50	0.81	1.00				
30. Skill - other staff	0.38	0.45	0.42	0.44	0.41	0.37	0.34	0.42	0.37	0.36	0.32	0.45	0.47	1.00			
31. Thoroughness of treatment	0.56	0.73	0.67	0.74	0.67	0.68	0.64	0.76	0.57	0.57	0.50	0.84	0.82	0.49	1.00		
32. How much you are helped	0.52	0.73	0.65	0.76	0.66	0.65	0.62	0.74	0.58	0.55	0.47	0.76	0.74	0.43	0.81	1.00	
33. Overall quality of care	0.56	0.71	0.65	0.74	0.62	0.64	0.59	0.69	0.54	0.53	0.45	0.70	0.71	0.42	0.75	0.78	1.00

(a) All correlations are significant at the $p<.001$ level, unless denoted by a * where $p<.02$ or a ** where $p<.01$, two tailed test.

met the criterion of .80 set for this study. Estimated alpha coefficients were .88 for Access to Care, .80 for Physical Environment, .91 for Finances, .93 for Interpersonal Care, .89 for Communications, .90 for Choice and Continuity, .85 for Technical Quality, and .87 Outcomes.

Internal Consistency

To test for internal consistency, I adopted the Hinshaw and Atwood (1981) inter-item correlation criteria of $\underline{r}$ = .30 to .70 utilized by Smith (1993). Table 2 summarizes the number of inter-item correlation's for the eight dimensions of patient satisfaction.

TABLE 2. Inter-item Consistancy of Survey Instrument

DIMENSION	Number of Correlations in Dimension	Number of Correlations Meeting Criteria
Access to Care	45	39
Physical Environment	3	3
Finances	1	0
Interpersonal Care	15	7
Communications	3	0
Choice & Continuity	3	1
Technical Quality	6	3
Outcomes	1	0

Items not meeting the $\underline{r}$ = .30 to .70 criteria generally exhibited higher correlations ($\underline{r}$ > .70). Higher values suggest item redundancy within the dimension. For example,

the correlation between the two questions which comprise the Finance dimension correlated very highly (r = .84). This indicates that the respondents tended to answer both questions very similarly. Thus, perhaps only one of the two questions need be asked in further iterations of this survey. The dimensions of Communications and Outcomes also exhibited this phenomena.

Selection of Survey Recipients

As previously mentioned, Tripler supports about one million beneficiaries throughout the Pacific Basin. In order to gain the most useful information for the purpose of this project, I have limited the number of recipients of this survey based on the following criteria.

1. Only local beneficiaries received this survey. This criteria helped reduce survey response time.

2. Designated recipients had an outpatient appointment during the month of November 1993. This criteria ensured that those receiving the survey had a recent Tripler experience upon which to base their response. This also allowed enough time for the researcher to scrub the list of potential recipients based on all established criteria.

3. The researcher sent only one survey per household, ensuring that an individual's views were represented only once and eliminating possible confusion for respondents.

4. The number of surveys sent was based on the number of local households who received care. Thus, it was not based on a percentage of actual outpatient visits since many families and individuals represent multiple visits in any given month.

To calculate the size of the sample, the Research Methodology Decision Aid, computerized program by Dr. Thomas R. Renckly (1991) was employed. Based on a population of over 49,000, a confidence level of .95, and a precision level of .05, a sample size of 650 persons was required.

The information management office provided an ad hoc listing from the Composite Health Care System (CHCS) of all individuals meeting the above criteria. The listing contained over 3,300 names. The researcher chose 1000 actual recipient's names randomly from the list.

Privacy Concerns

To preserve the privacy rights of all subjects, the mailing list was maintained in accordance with Privacy Act Data protocol. In addition, the survey did not request any sensitive personal information nor did it ask for the respondents' names.

The survey subjects received a letter of notification one week prior to the mailing of the survey. Non-respondents received a follow-up letter one week after the

return deadline in an attempt to express the hospital commander's interest in the recipients' concerns about the care they receive at Tripler (see Appendix 2).

Statistical Applications

The statistical applications included both descriptive and inferential methodologies. Descriptive statistics characterized the survey respondents' mean and standard deviation scores for demographic, utilization elements, dependent, and independent variables. Frequency distributions and histograms for both the dependent and independent variables are also presented. These statistics revealed the current level of patient satisfaction.

Next, the researcher employed inferential statistics. Pearson zero-order correlation matrixes illuminated statistically significant correlations between the dependent and independent variables, dependent variables and demographic items, dependent variables and utilization items, and between clinics visited and the independent variables/utilization items.

The researcher computed composite dimension scores for both year groups and compared these scores via independent group *t*-tests. The results of these independent group t-tests allow for assessing the difference in outpatient satisfaction levels over the past year.

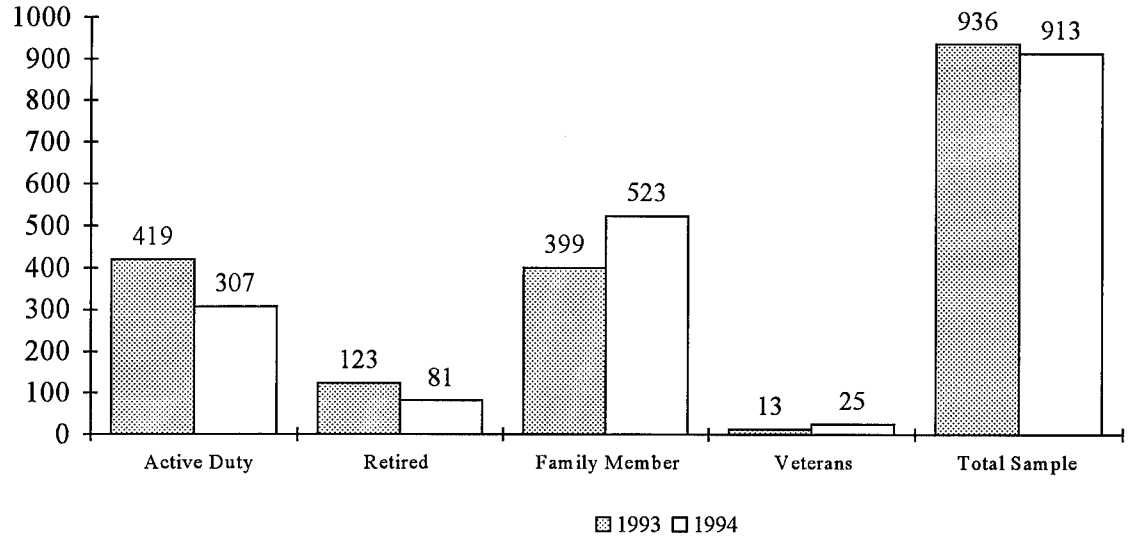
CHAPTER III

RESULTS

Survey Return Rate

Of the 1000 surveys sent out 64 were returned as undeliverable, another 19 were discarded due to the unsuitable quality of the responses. Figure 2 compares the sample survey population across both year groups. Both survey populations are relatively consistent and are characteristic of the individuals who utilize Tripler's outpatient services.

Figure 2. Sample Survey by Beneficiary Category - 1993 vs. 1994



The total number of valid surveys returned were 571. This calculates to an adjusted return rate of 63 percent. The researchers calculated the return rate by beneficiary category. These return rates are reported for both baseline year (Figure 3) and current year results (Figure 4).

Figure 3. Surveys Returned by Beneficiary Category - 1993

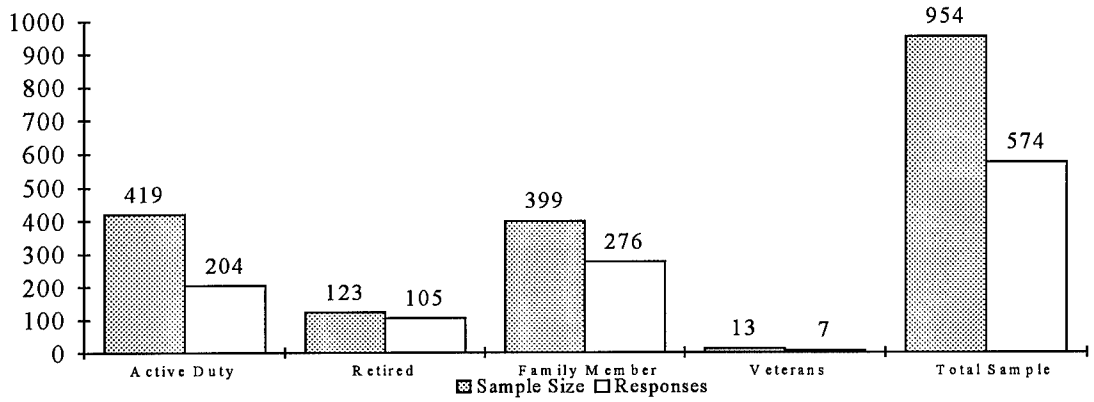
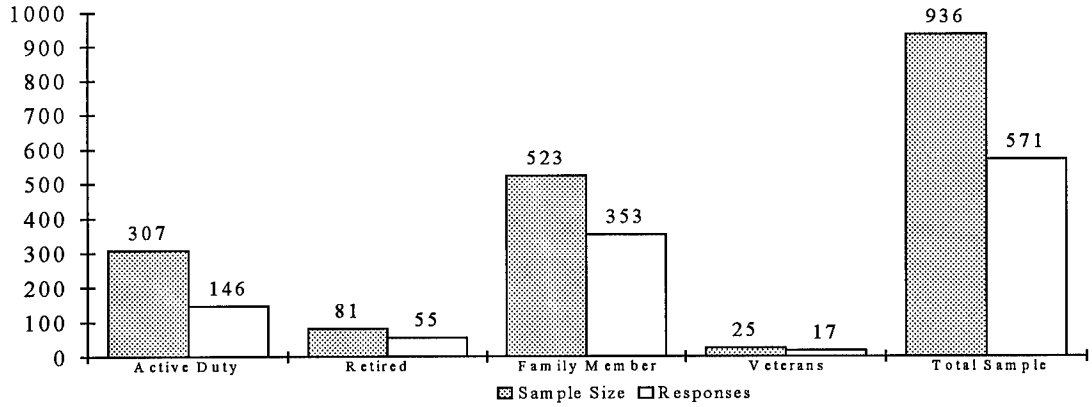


Figure 4. Surveys Returned by Beneficiary Category - 1994



The response rate for active duty members across both years was consistent at 49 and 48 percent, respectively. Similarly, family members responses varied little at 69 and

68 percent. Response rates fell from 85 percent to 68 percent for retirees. Conversely, response rates rose from 54 to 68 percent for veterans. Overall response rates remained fairly consistent at 61 and 63 percent, respectively. T-tests revealed no statistical difference between the categories sampled, nor any statistical difference between the categories of patients who responded across both years.

Respondent Demographic Characteristics

Table 3 summarizes the demographic characteristics of the sample (n = 571) used in the statistical analysis. The respondents consisted of 389 males (68 percent) and 189 females (32 percent). Almost 56 percent of the sample were below the age of 40, another 24 percent were over the age of 60. Over 72 percent of the sample were white, while only 10 percent were black and 8 percent Asian.

Approximately 86 percent of the sample were married. Sixty-eight percent of the sample were active duty personnel or family members of active duty personnel, and 30 percent of the respondents were retired personnel or their family members. Personnel in the Army (48 percent) were the largest group by branch of service in the sample, followed by the Navy at 26 percent and the Air Force at 15 percent. Respondents ranged in the grade from private to colonel with 69 percent enlisted personnel, 3 percent warrant officers,

TABLE 3. Sample Demographics Characteristics (N=571)

Demographic Characteristic		Number	Percentage
Age:	< 21 years	15	2.6
	21 - 29 years	143	25.2
	30 - 39 years	158	27.8
	40 - 49 years	83	14.6
	50 - 59 years	34	6.0
	> 60 years	135	23.8
	Unspecified	6	
Gender:	Male	389	68.1
	Female	182	31.9
Racial Background:	White	405	72.3
	Black	55	9.8
	Asian	45	8.0
	Pacific Islander	25	4.5
	Indian/Aleut/Eskimo	6	1.1
	Hispanic/Spanish	24	4.3
	Unspecified	11	
Marital Status:	Single	34	6.0
	Married	485	85.8
	Separated	7	1.2
	Divorced	28	5.0
	Widowed	11	1.9
	Unspecified	6	
Health Status:	Excellent	135	23.9
	Very Good	193	34.1
	Good	168	29.7
	Fair	55	9.7
	Poor	15	2.7
	Unspecified	5	
Military Pay Grade:	E1 - E4	94	16.8
	E5 - E6	160	28.4
	E7 - E9	132	23.4
	WO1 - CW5	15	2.8
	01 - 03	40	7.1
	04 - 05	89	15.8
	06 - 09	32	5.7
	Unspecified	8	
Branch of Service:	Army	271	48.1
	Navy	147	26.1
	Air Force	84	14.9
	Marine	52	9.3
	Coast Guard	9	1.6
	Unspecified	8	
Beneficiary Category:	Active Duty (AD)	284	50.3
	Family Member of AD	98	17.3
	Retired (Ret)	156	27.6
	Family Member of Ret	12	2.1
	Family Member of Dec	6	1.1
	Veterans Affairs (VAB)	9	1.6
	Unspecified	6	

approximately 29 percent commissioned officers. Lastly, almost 88 percent of the sample expressed their current health status as either "good", "very good", or "excellent".

Respondent Utilization Characteristics

Table 4 summarizes the utilization characteristics of the respondents. In comparing the sources of health care, military treatment facilities (MTFs) provided over 90 percent of all care sought by the respondents. Over 63 percent (361 of 571) received the majority of their care at Tripler. The primary reasons reported for not receiving care at Tripler were: use of other MTFs (51 percent), lived too far away (13 percent), too difficult to get an appointment (9 percent), see different provider (8 percent), and Tripler not conveniently located (7 percent). Almost 45 percent of the sample had utilized Tripler for more than three years. The respondent group who had used Tripler for less than one year represent 23 percent while those utilizing the facility between one and two years was nearly 33 percent.

Almost 76 percent of the respondents indicated that they had no inpatient admissions, and only 14 percent reported one admission at Tripler during the past year. Almost 72 percent of the sample had multiple outpatient visits with 40 percent reporting more than four outpatient visits at Tripler during the past 12 months. Almost 48

TABLE 4. Sample Utilization Characteristics (N=571)

	Utilization Characteristic	Number	Percentage
Length of Time Used:	< 1 years	129	23.0
	1 - 2 years	182	32.5
	> 3 years	249	44.5
		11	
Percent of Care From:	TAMC	---	63.3
	Other MTFs	---	27.4
	CHAMPUS	---	5.1
	Private Insurance	---	4.2
Reason Majority Not From TAMC:	Lacks services	6	2.9
	Not conveniently located	15	7.4
	Not treated courteously	2	1.0
	Providers not thorough	4	2.0
	See different providers	16	7.8
	Schedule conflicts	5	2.5
	Appointment too difficult	19	9.3
	Live too far away	27	13.2
	Wait time to be seen	7	3.4
	Use other MTFs	103	50.5
	N/A - Majority at TAMC	353	
	Unspecified	14	
Number of Admissions:	None	420	75.7
	One	77	13.9
	Two to four	44	7.9
	Five to nine	6	1.1
	Ten or more	8	1.4
	Unspecified	42	
Number of Outpatient Visits:	None	105	19.0
	One	48	8.7
	Two to four	179	32.3
	Five to nine	112	20.3
	Ten or more	109	19.7
	Unspecified	18	
Same Provider:	Always	101	18.1
	Most of the time	164	29.5
	Sometimes	124	22.3
	Rarely	106	19.1
	Never	61	11.0
	Have not used	1	
	Unspecified	14	
Appointment Wait Time:	2 days or less	61	11.6
	3 days - 1 week	105	19.9
	1 - 2 weeks	178	33.8
	3 - 4 weeks	136	25.8
	5 - 6 weeks	32	6.1
	> 6 weeks	15	2.8
	Have not used	32	
	Unspecified	12	

TABLE 4. (CONTINUED) Sample Utilization Characteristics (N=571)

Utilization Characteristic		Number	Percentage
Wait Time to be Seen:	< 10 minutes	31	5.7
	10 - 15 minutes	135	24.9
	16 - 30 minutes	203	37.4
	31 - 45 minutes	106	19.5
	46 - 60 minutes	48	8.8
	> 60 minutes	20	3.7
	Have not used	24	
	Unspecified	4	
Clinics Most Frequently Used:	General Surgery	72	7.4
	Internal Medicine	117	12.0
	Pediatrics	103	10.6
	Obstetrics/Gynecology	160	16.4
	Orthopedics	100	10.2
	Mental Health Services	18	1.8
	Cardiology	58	5.9
	Ear, Nose, Throat	93	9.5
	Optometry	47	4.8
	Allergy	15	1.5
	Physical Therapy	10	1.0
	Neurology	11	1.1
	Pulmonary	10	1.0
	Dermatology	37	3.8
	Emergency Room	15	1.5
	Urology	20	2.0
	Family Practice	27	2.8
	Medical Specialties	44	4.5
	Adult Outpatient Clinic	19	1.9

percent of the respondents stated that they saw the same provider "always" or "most of the time". The most frequently used clinics were Obstetrics/Gynecology (16 percent), Internal Medicine (12 percent), Pediatrics (11 percent), and Orthopedics (10 percent).

Approximately 65 percent of the respondents indicated that they had to wait no more than two weeks for a routine appointment, another 26 percent reported that they had to

wait from three to four weeks. The majority of the respondents (82 percent) indicated that the normal wait time to be seen by a provider during a routine appointment was from 10 to 45 minutes. Twenty-five percent cited a waiting time of 10 to 15 minutes, 37 percent indicate a waiting time of 16 to 30 minutes, and 20 percent had to wait 31 to 45 minutes.

Descriptive Analysis of Survey Item Responses

The mean satisfaction scores for the dependent and independent variables are presented in Table 5. Mean scores for the variables were generally favorable with the standard deviation of approximately ± 1 rating scale point. Mean scores for the dependent variables were 3.60 (between 3 = "Good" and 4 = "Very Good") for *Overall Evaluation*, 3.94 (between 3 = "Not Sure" and 4 = "Agree") for *Overall Satisfaction*, and 3.24 (between "Not Sure" and "Agree") for *Medical Care is Just About Perfect*. The mean score for the dependent variable *Could be Better* was 3.71 (between "Not Sure" and "Agree"), and 3.04 (between "Not Sure" and "Agree") for *Dissatisfied with Some Things*.

Scores for the independent variables ranged from 2.98 ("Fair" and "Good") to 4.15 ("Very Good" and "Excellent"). The highest mean scores were in the dimensions of Finances, Physical Environment, Outcome, and Interpersonal Care. The lowest scores were in Access and Choice and Continuity.

TABLE 5. Descriptive Data for Dependent and Independent Variables (N=574)

Variable	Mean (a)	Std. Deviation
Overall Evaluation of TAMC	3.60	0.98
Overall Satisfaction of Care	3.94	1.00
Things Could Be Better	3.71	1.09
Medical Care Is Just About Perfect	3.24	1.14
Dissatisfied With Some Things	3.04	1.27
ACCESS TO CARE:	3.41	0.48
Convenience of Location	3.82	1.14
Hours of Operation	3.84	0.97
Access to Specialty Care	3.60	1.20
Access to Hospital Care	3.94	1.03
Access to Emergency Care	3.86	1.19
Making Appointments by Phone	2.73	1.31
Wait Time at Office	2.91	1.17
Wait Time for Appointment Visit	2.85	1.15
Medical Information by Phone	3.01	1.26
Access to Medical Care	3.55	1.11
PHYSICAL ENVIRONMENT:	4.11	0.25
Overall Cleanliness	4.40	0.77
Location of Services and Clinics	3.98	0.91
Waiting and Treatment Areas	3.95	0.96
FINANCES	4.22	0.01
Protection Against Medical Expenses	4.23	1.02
Care Without Financial Problems	4.21	1.02
INTERPERSONAL CARE:	3.81	0.16
Doctors and Medical Staff	4.06	1.03
Administrative Staff/Receptionists	3.77	1.10
Personal Interest Shown	3.71	1.18
Respect and Privacy	3.90	1.13
Reassurance and Support	3.82	1.14
Amount of Time During Visit	3.61	1.21
COMMUNICATIONS:	3.70	0.12
Explanations of Procedures	3.81	1.12
Advice to Stay Healthy	3.71	1.16
Attention to What You Say	3.57	1.19
CHOICE AND CONTINUITY:	2.96	0.19
Doctors to Choose From	3.14	1.24
Seeing Doctor of Your Choice	2.97	1.38
Choosing a Personal Doctor	2.76	1.43
TECHNICAL QUALITY:	3.77	0.06
Examination and Diagnosis	3.69	1.17
Skill - Doctors	3.83	1.05
Skill - Other Staff Members	3.76	1.65
Thoroughness of Treatment	3.78	1.10
OUTCOMES:	3.82	0.07
Outcome - How Much You Are Helped	3.77	1.11
Overall Quality of Care Received	3.87	1.08

(a) All variables are coded on a 5-point scale with "5" representing the highest rating.

In the dimension of Finances, *Protection you have against hardship due to medical expenses* and *Arrangements for you to get medical care you need without financial problems* both received the highest overall ratings for the independent variables (4.16 and 4.14, respectively). Physical Environment received its highest rating in *Overall cleanliness of the facility* (4.39). The low standard deviation of ±1 rating scale point exhibited in the respondents scores reveal general agreement in the ratings for these independent variables.

Frequency Distributions

Frequency distributions were computed for all dependent and independent variables. A summary of the dependent and independent variable response category frequencies by percentage are presented in Table 6. Frequency distribution tables and histograms for each dependent variable are presented in Appendix 3, Table 6-1. Frequency distribution tables and histograms for the independent variables are presented in Appendix 3, Tables 6-2 through 6-9. Information from both the 1993 and 1994 surveys was included for comparative purposes.

In computing the frequency distributions, cases where respondents left the item blank ("Unspecified") or indicated that they had not used the particular service ("Have Not Used") were omitted from the histograms and the

TABLE 6. Dependent and Independent Variables Response Category Percentages (N=571)

Corresponding Survey Questions Number and Survey Item (a)	Rating Scale (b) "1"	"2"	"3"	"4"	"5"
CRITERION ITEMS:					
2. Overall Evaluation of TAMC	2	10	33	36	19
37. Overall Satisfaction of Care (c)	3	8	10	49	29
38. Things Could Be Better (c)	4	12	18	41	25
39. Medical Care Is Just About Perfect (c)	7	22	22	37	12
40. Dissatisfied With Some Things (c)	12	30	13	32	13
ACCESS TO CARE:					
4. Convenience of Location	3	10	25	25	37
5. Hours of Operation	2	7	27	36	29
6. Access to Specialty Care	7	11	24	30	28
7. Access to Hospital Care	3	6	22	34	36
8. Access to Emergency Care	5	10	19	26	40
9. Making Appointments by Phone	23	21	26	18	11
10. Wait Time at Office	14	21	33	22	10
11. Wait Time for Appointment Visit	16	20	35	22	7
12. Medical Information by Phone	14	22	28	22	15
13. Access to Medical Care	4	12	31	29	23
PHYSICAL ENVIRONMENT OF FACILITY:					
14. Overall Cleanliness	0	2	10	34	55
15. Location of Services and Clinics	1	5	21	41	32
16. Waiting and Treatment Areas	1	7	22	36	34
FINANCES					
17. Protection Against Medical Expenses	2	5	14	25	54
18. Care Without Financial Problems	2	5	14	26	53
INTERPERSONAL CARE:					
19. Doctors and Medical Staff	2	6	18	30	43
20. Administrative Staff/Receptionists	3	10	23	32	31
21. Personal Interest Shown	6	10	24	29	32
22. Respect and Privacy	5	8	18	33	37
23. Reassurance and Support	5	8	23	29	35
24. Amount of Time During Visit	7	12	24	28	29
COMMUNICATIONS:					
25. Explanations of Procedures	4	8	22	32	33
26. Advice to Stay Healthy	6	9	25	30	30
27. Attention to What You Say	7	11	25	30	26
CHOICE AND CONTINUITY:					
28. Doctors to Choose From	12	18	29	24	16
29. Seeing Doctor of Your Choice	21	18	22	23	17
30. Choosing a Personal Doctor	27	20	19	18	16
TECHNICAL QUALITY:					
31. Examination and Diagnosis	5	12	23	29	31
32. Skill - Doctors	2	8	26	31	32
33. Skill - Other Staff Members	3	9	31	33	25
34. Thoroughness of Treatment	4	8	25	31	32
OUTCOMES:					
35. Outcome - How Much You Are Helped	4	9	23	33	30
36. Overall Quality of Care Received	3	7	24	34	32

(a) Survey items contained in this table are an abbreviated form of the questions contained in the Patient Satisfaction Survey. Please refer to survey instrument for the complete question.

(b) Rating scale for questions 2 and 4-36: 1 = Poor; 2 = Fair; 3 = Good; 4= Very Good; 5 = Excellent. Rating for questions 37 - 40: 1 = Strongly Disagree; 2 = Disagree; 3 = Not Sure; 4 = Agree; 5= Strongly Agree.

(c) Survey questions 37, 38, 39, and 40 were reflected during data analysis so that 5 represented the highest response possible.

computation of the reported percentages. While "Unspecified" cases were relatively few in number, a considerable number of respondents selected the 6 = "Have Not Used" response category on some survey items. These survey items included: *Choosing a personal doctor, Examination and diagnosis, Care without financial problems, Protection against medical expenses, and Seeing doctor of your choice.*

Overall, the computed frequencies were highly skewed to the right. That is, respondents tended to provided responses in the "very good"/"excellent" and "agree"/"strongly agree" range. I will cite only the top ten positively and top seven negatively skewed results upon which the respondents agreed.

Skewed Frequency Distribution Characteristics

The two dependent variables and eight independent variables were positively skewed. The percent of respondents appears in parentheses after the item. The two dependent variable items were, *Overall satisfaction of care* (78) and *Things could be better* (66).

The eight independent variable items were; *Access to hospital care* (70), *Overall Cleanliness* (89), *Location of services* (73), *Waiting and treatment areas* (70), *Doctors and medical staff* (73), *Respect for privacy* (70), *Explanation of procedures* (66), and *Overall quality of care received* (66).

One dependent and six independent variables were negatively skewed. The dependent variable was *Dissatisfied with some things* (42). The six independent variable items were; *Making appointments by phone* (44), *Waiting time at office* (35), *Waiting time for appointment* (36), *Medical information by phone* (36), *Seeing doctor of your choice* (39), and *Choosing a personal doctor* (47).

Open-Ended Question Characteristics

Responses to open-ended questions (*What two things do you like the most about TAMC?, What two things might we improve at TAMC?*, and *Any additional comments you would like to make?*) yielded a large number of responses with over 450 individuals proving some form of reply to at least one of these questions. Responses to the first two questions were coded and separated into categories which best represented the response. Table 7 contains the coded categories and frequency of response to these two questions.

Responses to the third open-ended question were evaluated but not presented in this study. Most of the individuals used this third area to thank individual physicians, specific clinics, or Tripler - in general, for the care and support the medical center provides.

TABLE 7. Frequency of Category Responses to Open-Ended Questions

	1993		1994	
Things Liked Most About TAMC	**Frequency of Response**	**Percent of Total**	**Frequency o Response**	**Percent of Total**
1 . Professionalism and Concern of Medical Staff	166	20.75	90	14.80
2 . Quality of Medical Care	110	13.75	62	10.20
3 . Convenience of Location	80	10.00	82	13.49
4 . Friendliness and Courtesy of Staff	78	9.75	82	13.49
5 . Cleanliness of Facillity	66	8.25	45	7.40
6 . Number of Specialties and Services	55	6.88	34	5.59
7 . Atmosphere and Appearance of Facility	34	4.25	31	5.10
8 . No Cost for Care	28	3.50	28	4.61
9 . Pharmacy Services	27	3.38	34	5.59
10 . Pediatric Clinics and Inpatient Services	23	2.88	5	0.82
11 . Accessibility to Medical Care	20	2.50	36	5.92
12 . Family Practice Clinic	18	2.25	11	1.81
13 . State of the Art Technology	17	2.13	7	1.15
14 . Labor and Delivery	16	2.00	6	0.99
15 . Treatment and Services for Retirees	14	1.75	4	0.66
16 . CHCS Computerized Ordering System	12	1.50	4	0.66
17 . Continuity of Care	11	1.38	4	0.66
18 . Dining Facillity/Food Service	--	0.00	10	1.64
18 . Other Responses	25	3.13	33	5.43
Total	800	100	608	100
Things That Might Be Improved				
1 . Making Appointments by Phone	132	17.19	94	15.67
2 . Friendliness and Courtesy of Staff	101	13.15	52	8.67
3 . Waiting Time for an Appointmenet	76	9.90	42	7.00
4 . Parking	54	7.03	49	8.17
5 . Waiting Time to be Seen by Provider	48	6.25	43	7.17
6 . Continuity of Care/Choice	36	4.69	37	6.17
7 . Pharmacy Services	36	4.69	14	2.33
8 . Increased Staffing	32	4.17	25	4.17
9 . Quality of Medical Care	23	2.99	23	3.83
10 . Communications	22	2.86	18	3.00
11 . Amount of Time During a Visit	22	2.86	11	1.83
12 . Emergency Room and Wait Time	22	2.86	26	4.33
13 . Obstetrics/Gynecology Services	19	2.47	18	3.00
14 . Overall Telephone System	17	2.21	14	2.33
15 . Follow-up After Diagnosis	16	2.08	9	1.50
16 . Directional Signs in Facility	14	1.82	19	3.17
17 . Hours of Operation	11	1.43	13	2.17
18 . More Prompt Attention	10	1.30	5	0.83
19 . Food Service	10	1.30	4	0.67
20 . Optometry Services Access	--	0.00	19	3.17
21 . Dental Services for Retirees	--	0.00	20	3.33
22 . Outpatient Medical Records	--	0.00	11	1.83
23 . Orthopedic Clinic	--	0.00	13	2.17
24 . Other Responses	67	8.72	21	3.50
Total	768	100	600	100

Inferential Statistics

Dependent - Independent Variable Correlations

A Pearson zero-order correlation coefficient matrix illuminated linear relationships between the dependent and independent variables (see Table 8). Results from the correlation matrix revealed that the items used to measure the different dimensions of patient satisfaction were significantly correlated with the dependent variables. All but one correlation was significant at the $p < .001$ level. The single item not significant at this level was significant at the $p < .05$ level.

Moderately-high correlations ranging from $r = .25$ to .68 were obtained between the independent variables and Overall Evaluation, from $r = .26$ to .68 between the independent variables and Overall Satisfaction, and from $r = .20$ to .65 between the independent variables and Medical Care is Just About Perfect. Independent variables were significantly but negatively correlated with Some Things Could be Better and Dissatisfied With Some Things with ranges of $r = -.10$ to $-.45$ and $r = -.19$ to $-.53$, respectively.

Overall Evaluation was most highly correlated with *Reassurance and support* ($r = .68$), and *Overall quality of care/How much you were helped* (both, $r = .66$). Overall Satisfaction was most highly correlated with *How much you were helped* ($r = .68$), and *Thoroughness of*

TABLE 8. Correlation Between Dependent and Independent Variables

Variables (a)	Dependent Variables				
	Overall Evaluation	Overall Satisfaction	Could Be Better	Medical Care is Perfect	Dissatisfied with Some Things
Access to Care:					
Convenience of location	0.30	0.26	-0.10*	0.20	-0.19
Hours of operation	0.50	0.40	-0.26	0.36	-0.32
Specialty care	0.54	0.53	-0.32	0.48	-0.39
Hospital care	0.57	0.50	-0.26	0.41	-0.34
Emergency care	0.51	0.43	-0.24	0.38	-0.35
Appointments by phone	0.36	0.37	-0.32	0.33	-0.29
Wait time at office	0.52	0.48	-0.37	0.44	-0.43
Wait time for appointment	0.44	0.45	-0.38	0.40	-0.35
Information by phone	0.46	0.42	-0.33	0.39	-0.34
Medical care	0.58	0.55	-0.28	0.48	-0.37
Physical Environment:					
Overall cleanliness	0.41	0.30	-0.21	0.27	-0.28
Location of services	0.43	0.36	-0.18	0.32	-0.24
Waiting/treatment areas	0.49	0.44	-0.22	0.41	-0.30
Finances:					
Protection against expenses	0.25	0.28	-0.16	0.22	-0.20
Care w/o financial problems	0.31	0.30	-0.17	0.25	-0.20
Interpersonal Care:					
Doctors and medical staff	0.67	0.62	-0.37	0.56	-0.49
Admin Staff/Receptionists	0.55	0.50	-0.36	0.47	-0.42
Personal interest shown	0.67	0.65	-0.41	0.65	-0.52
Respect and privacy	0.62	0.57	-0.40	0.59	-0.49
Reassurance and support	0.68	0.66	-0.40	0.65	-0.52
Time during visit	0.59	0.55	-0.39	0.56	-0.47
Communications:					
Explanations of procedures	0.58	0.57	-0.37	0.54	-0.46
Advice to stay healthy	0.52	0.50	-0.31	0.49	-0.39
Attention to what you say	0.64	0.65	-0.37	0.60	-0.49

TABLE 8(CONTINUED). Correlation Between Dependent and Independent Variables

Variables (a)	Dependent Variables				
	Overall Evaluation	Overall Satisfaction	Could Be Better	Medical Care is Perfect	Dissatisfied with Some Things
Choice and Continuity:					
Doctors to choose from	0.48	0.53	-0.34	0.53	-0.46
Seeing doctor of choice	0.49	0.51	-0.34	0.52	-0.45
Choosing a personal doctor	0.42	0.43	-0.29	0.44	-0.38
Technical Quality:					
Examination and diagnosis	0.65	0.67	-0.40	0.63	-0.52
Skill - doctors	0.64	0.63	-0.40	0.62	-0.50
Skill - other staff	0.43	0.42	-0.24	0.40	-0.33
Thoroughness of treatment	0.65	0.67	-0.40	0.64	-0.53
Outcomes:					
How much you are helped	0.66	0.68	-0.35	0.63	-0.49
Overall quality of care	0.66	0.65	-0.45	0.63	-0.53

(a) All correlations are significant at the $p < .001$ level, unless denoted by a * where $p < .05$ level, two-tailed test.

Treatment/Examination and diagnosis (both, r = .67). Medical Care is Just About Perfect correlated most highly with both *Personal interest shown* and *Reassurance and support* (both, r = .65). Things Could be better correlated most highly with *Overall quality of care* (r = -.45) and *Personal interest shown* (r = -.41). Dissatisfied with Some Things correlated most highly with *Thoroughness of treatment* and *Overall quality of care* (both, r = -.53).

Dependent Variable and Demographic Correlations

A Pearson zero-order correlation coefficient matrix illuminated linear relationships between the dependent variables and demographic characteristics of the respondents (see Table 9). Significant correlations exist between the dependent variables and age, gender, racial background, marital status, pay grade, branch of military service, and beneficiary category. Since health status was not found to be significant the researcher deleted it from further investigation.

The correlations between the dependent variables and age groups ranged from r = .20 to .35, $p < .001$, with most age groups (<21 to 39 years) negatively correlated and the oldest age group (>60 years) positively correlated. The average scores in rating Overall Evaluation for the age cohorts were: <21 (3.00), 21-29 (3.27), 30-39 (3.41),

TABLE 9. Correlation Between Dependent Variables and Demographic Variables

Variables	Dependent Variables				
	Overall Evaluation (a)	Overall Satisfaction (b)	Could Be Better (c)	Medical Care is Perfect (d)	Dissatisfied with Some Things (e)
Age:					
< 21 years	- .11 *	- .07	.05	- .08	- .02
21 - 29 years	- .20 ***	- .15 ***	.17 ***	- .15 ***	.17 ***
30 - 39 years	- .13 **	- .09 *	.04	- .08	.10 *
40 - 49 years	- .00	- .01	- .05	.03	.01
50 - 59 years	.06	.08	- .03	.02	- .04
> 60 years	.35 ***	.24 ***	- .18 ***	.24 ***	- .26 ***
Gender (f)	.23 ***	.14 ***	- .17 ***	.17 ***	- .16 ***
Racial Background:					
White	.10	.10	- .02	.02	.05
Black	- .14 **	- .11 **	.04	- .05	.07
Asian	.01	.01	.00	.02	- .03
Pacific Islander	.04	- .04	- .08	.04	.03
Indian/Aleut/Eskimo	- .07	- .06	.08	- .05	.07
Hispanic/Spanish	- .02	- .04	.01	- .05	- .03
Marital Status:					
Single	.04	.03	- .12 **	.07	- .09 *
Married	- .02	- .01	.08	- .03 *	.07
Separated	.03	.04	- .01	.03	- .00
Divorced	- .05	- .08	- .02	- .08	.02
Widowed	.05	.06	.04	.06	- .04
Health Status	- .01	.05	.03	- .03	.03

TABLE 9 (CONTINUED). Correlation Between Dependent Variables and Demographic Variables

Variables	Dependent Variables				
	Overall Evaluation (a)	Overall Satisfaction (b)	Could Be Better (c)	Medical Care is Perfect (d)	Dissatisfied with Some Things (e)
Pay Grade:					
E1 - E4	- .14 **	- .13 **	.11 **	- 0.1 **	.12 **
E5 - E6	- .16 ***	- .16 ***	.07	- 0.1 *	.07
E7 - E9	.09 *	.07	- .15 ***	0.1 **	- .10 *
WO1 - CW4	- .04	- .04	.03	- 0.0	.00
O1 - O3		.05	.04	- 0.1	.07
O4 - O5	.16 ***	.15 ***	- .04	0.1 *	- .08
O6 - O9	.13 **	.11 *	- .03	.06	- .09 *
Branch of Service:					
Army	- .03	- .07	.04	- .04	.07
Navy	- .01	.01	.01	- .05	.01
Air Force	.10 *	.10 *	- .07	.07	- .10 *
Marine	- .04	- .01	- .02	.05	- .01
Coast Guard	- .04	.01	.03	- .00	- .00
Beneficiary Category:					
Active Duty (AD)	- .14 ***	- .09 *	.06	- 0.1 *	.11 **
Family Member of AD	- .18 ***	- .12 **	.14 **	- 0.1 **	.14 **
Retired (Ret)	.33 ***	.21 ***	- .17 ***	0.2 ***	- .22 ***
Family Member of Ret	- .02	- .01	.01	0	- .00
Family Member of Dec	- .05	.01	.06	- 0	.01
Veterans Affairs (VAB)	- .00	- .02	- .11 **	0.1 **	- .07

(a) The higher the response, the higher the individual's overall evaluation of the health care at TAMC.
(b) The higher the response, the more the individual is satisfied with the medical care he or she receives at TAMC.
(c) The higher the response, the more the individual agrees that things could be better at TAMC.
(d) The higher the response, the more the individual feels the medical care at TAMC is just about perfect.
(e) The higher the response, the more the individual is dissatisfied with somethings about the medical care at TAMC.
(f) 1 = male; 0 = female

40-49 (3.60), 50-59 (3.79), and >60 (4.19).

Males were positively and significantly correlated with Overall Evaluation, Overall Satisfaction, and Medical Care is Just About Perfect with r = .14 to .23, p < .001. Further, males were negatively and significantly correlated with Medical Care Could be Better and Dissatisfied with Some Things with r = -.17 and -.16, p < .001, respectively. The average Overall Evaluation rating for males who responded was 3.76, while the female respondents exhibited a mean score of 3.26 ($F(2,1)=57.19$, p =.000).

The only racial background category exhibiting a significant correlation with the dependent variables was the Black cohort. The Black cohort correlated significantly and negative with Overall Evaluation (r = -.14, p <.01) and Overall Satisfaction (r = -.11, p <.01). No other racial correlations reached a statistical level of significance.

Marital status was negatively and statistically correlated between single and Could be Better (r = -.12, p <.01) and Dissatisfied with Some Things (r = -.09, p <.05). Married respondents' scores correlated negatively and significantly with Medical Care is Perfect (r = -.03, p <.05).

Pay grade correlations were found to be positively and significantly correlated between senior NCOs/Field grade Officers and Overall Evaluation/Satisfaction. Conversely, junior enlisted soldiers correlated negatively and significantly with the same two dependent measures.

Independent Variable and Utilization Item Correlations

The correlations between the independent variables and utilization survey items are presented in Table 10. Significant correlations between reasons for not using Tripler for the majority of health care and Overall Satisfaction were reflected in areas of Lacks needed services (r = -.15, p <.001), Live too far away (r = .11, p <.01), and Providers not thorough (r = -.09, p <.05). Appointment waiting Time "3 Days to 1 Week" was positively correlated with Overall Satisfaction (r = .09, p <.05), but was negatively correlated with "5 to 6 Weeks" (r = -.19, p <.001) and "Over 6 Weeks" (r = -.10, p <.05).

Waiting Time to be Seen "10 to 15 Minutes" was positively correlated with Overall Evaluation (r = .18, p <.001), and negatively correlated at "31 to 45 Minutes" (r = -.12, p <.001), "46 to 60 Minutes" (r = -.15, p <.001). Similarly, Overall Satisfaction was also positively correlated with seen "10 to 15 Minutes" (r = .17, p <.001), and negatively correlated at "31 to 45 Minutes" "46 to 60 Minutes" and "> 60 Minutes" (r = -.12, p <.01),(r = -.13, p <.01), and (r = -.19, p <.001), respectively.

The highest correlation between utilization variables and independent variables was in the frequency of Seeing the same provider (r = .29, p <.001).

TABLE 10. Correlation Between Dependent Variables and Utilization Variables

Variables	Dependent Variables				
	Overall Evaluation (a)	Overall Satisfaction (b)	Could Be Better (c)	Medical Care is Perfect (d)	Dissatisfied with Some Things (e)
Percentage of Care From:					
TAMC	.16 ***	.12 **	- .05	.14 ***	- .10 *
Other MTFs	- .12 **	- .06	- .00	- .09 *	.01
CHAMPUS	- .11 **	- .15 ***	.09	- .10 *	.17 ***
Private Insurance	.02	.01	.02	- .02	.03
Reason Majority Not from TAMC					
Lacks services	- .12 **	- .15 ***	.01	- .10 *	.09 *
Not conveniently located	- .05	- .01	.05	- .11 *	.07
Not treated courteously	- .07	- .06	.07	- .09 *	.09 *
Providers not Thorough	- .06	- .10 *	.08	- .15 ***	.12 **
See different providers	- .12 **	- .08	.08	- .11 **	.12 **
Schedule conflicts	.01	- .01	.01	.01	- .02
Appointments too difficult	- .09 *	- .08	.07	- .04	.04
Live too far away	.03	.11 **	- .07	.06	- .06
Wait time to be seen	- .11 *	- .09 *	.03	- .05	.05
Use other MTFs	- .05	- .02	- .02	- .00	- .03
N/A - Majority at TAMC	.18 ***	.11 **	- .05	.13 **	- .09 *
Same Provider	- .29 ***	- .27 ***	.16 ***	- .31 ***	.23 ***
Appointment Wait Time:					
2 days or less	.08	.09 *	- .08 *	.12 **	- .10 *
3 days - 1 week	.02	.09 *	- .09 *	.05	- .11 **
1 - 2 weeks	.00	.05	- .05	.03	- .01
3 - 4 weeks	- .07	- .09 *	.15 ***	- .06	.10 *
5 - 6 weeks	- .10 *	- .19 ***	.11 *	- .13 **	.14 ***
> 6 weeks	.01	- .10 *	.03	- .16 ***	.07

TABLE 10 (CONTINUED). Correlation Between Dependent Variables and Utilization Variables

Variables	Dependent Variables: Overall Evaluation (a)	Overall Satisfaction (b)	Could Be Better (c)	Medical Care is Perfect (d)	Dissatisfied with Some Things (e)
Wait Time to be Seen:					
< 10 minutes	.11 **	.10 *	- .17 ***	.12 **	- .16 ***
10 -15 minutes	.18 ***	.17 ***	- .11 *	.21 ***	- .20 ***
16 - 30 minutes	.01	.02	- .04	.00	.00
31 - 45 minutes	- .12 **	- .12 **	.14 **	- .19 ***	.20 ***
46 - 60 minutes	- .13 **	- .08	.13 **	- .11 **	.09 *
> 60 minutes	- .19 ***	- .24 ***	.13 **	- .15 ***	.11 *
Clinics Most Frequently Visited:					
General Surgery	.01	.03	.02	- .02	.01
Internal Medicine	.15 ***	.07	- .11 *	.11 *	- .17 ***
Pediatrics	- .09 *	- .00	.06	- .04	.04
Obstetrics/Gynecology	- .19 ***	- .15 ***	.18 ***	- .18 ***	.19 ***
Orthopedics	.01	- .01	.04	- .01	.03
Mental Health Services	- .06	- .02	.01	- .05	.07
Cardiology	.18 ***	.09 *	- .11 *	.13 **	- .12 **
Ear, Nose & Throat	.03	- .00	- .04	.01	.01
Optometry	.00	.00	- .05	- .00	- .03
Allergy	- .04	.00	.04	- .03	- .01
Physical Therapy	- .01	.02	- .03	- .00	.01
Neurology	- .09 *	- .07	.04	- .06	.07
Pulmonary	.06	.05	.04	.06	- .01
Dermatology	.13 **	.15 ***	- .06	.09 *	- .03
Emergency Room	- .01	- .04	.01	- .03	.00
Urology	.06	.03	- .10 *	.07	- .07
Family Practice	.02	.05	- .00	- .00	- .02
Medical Specialties	.13 **	.08	- .13 **	.02	- .06
Adult Outpatient Clinic	- .01	- .03	.09 *	- .06	.06

(a) The higher the response, the higher the individual's overall evaluation of the health care at TAMC.
(b) The higher the response, the more the individual is satisfied with the medical care he or she receives at TAMC.
(c) The higher the response, the more the individual agrees that things could be better at TAMC.
(d) The higher the response, the more the individual feels the medical care at TAMC is just about perfect.
(e) The higher the response, the more the individual is dissatisfied with somethings about the medical care at TAMC.
* $p < .05$, ** $p < .01$, *** $p < .001$; two-tailed significance.

In comparing the clinics most frequently visited to the independent variables, Internal Medicine, Cardiology, Dermatology, and Medical Specialties were significantly correlated with Overall Evaluation (r = .15, p <.001, (r = .18, p <.001, r = .13, p <.001, and r = .13, p <.01, respectively). Clinics negatively correlated with Overall Evaluation were Pediatrics (r = -.09, p <.05), Obstetrics/Gynecology (r = -.19, p <.001), and Orthopedic (r = -.09, p <.05).

Dependent Variable and Clinic Correlations

Additional analysis of clinics that were statistically and significantly correlated with the independent variables revealed that the clinics were also significantly correlated with the dependent variables (see Table 11). The dimensions that contained the largest number of significant correlations was Interpersonal Care, ranging from r = .10 to .13, p <.01. Internal Medicine was also positively and significantly correlated with *Hours of Operation* (r = .15, p <.001).

In the dimension of Access to Care, Pediatrics was negatively and significantly correlated with Waiting time at office (r = -.13, p <.01), Hours of operation, Specialty care, Information by phone (each, r = -.09, p <.05), Medical care (r = -.08, p <.05), and Waiting time for appointment (r = -.07, p <.01). Further, Appointment waiting time was

TABLE 11. Correlation Between Clinics and Independent/Utilization Variables

Variables	Outpatient Clinics						
	Internal Medicine	Pediatrics	Obstetrics/ Gynecology	Orthopedics	Cardiology	Dermatology	Medical Specialties
Access to Care:							
Convenience of location	.07	-.01	-.12 **	-.07	.12 **	.07	.13 **
Hours of operation	.15 ***	-.09 *	-.15 ***	-.02	.11 **	.16 ***	.07 *
Specialty care	.06	-.09 *	-.12 **	.01	.08 *	.15 ***	.13 **
Hospital care	.10 *	-.02	-.13 **	-.02	.15 ***	.16 ***	.14 ***
Emergency care	.19 ***	-.09 *	-.18 ***	-.08 *	.17 ***	.12 **	.11 **
Appointments by phone	.03	-.05	-.13 **	-.02	.06	.07	.12 **
Wait time at office	.06	-.13 **	-.23 ***	-.07 *	.13 **	.20 ***	.17 ***
Wait time for appointment	.04	-.07 *	-.09 *	.01	.08 *	.07	.12 **
Information by phone	.04	-.09 *	-.19 ***	-.03	.09 *	.07	.16 ***
Medical care	.09 *	-.08 *	-.16 ***	-.03	.09 *	.14 ***	.16 ***
Physical Environment:							
Overall cleanliness	.07	-.04	-.09 *	-.02	.08 *	.08 *	.10 **
Location of services	.11 **	-.01	-.11 **	.00	.09 *	.09 *	.12 **
Waiting/treatment areas	.09 *	-.04	-.16 ***	-.04	.10 *	.13 **	.12 **
Finances:							
Protection against expenses	-.02	-.01	.01	.00	.05	.00	.06
Care w/o financial problems	.02	-.02	-.04	.00	.05	.02	.08 *
Interpersonal Care:							
Doctors and medical staff	.12 **	-.10 *	-.18 ***	-.08 *	.13 **	.14 ***	.11 **
Admin. Staff/Receptionists	.05	-.12 **	-.18 ***	-.06	.10 *	.17 ***	.13 **
Personal interest shown	.11 **	-.08 *	-.24 ***	-.07 *	.15 ***	.11 **	.07 *
Respect and privacy	.13 **	-.02	-.21 ***	-.06	.14 ***	.11 **	.07
Reassurance and support	.13 **	-.07	-.21 ***	-.04	.15 ***	.14 ***	.15 ***
Time during visit	.10 *	-.10 *	-.20 ***	-.07	.12 **	.14 ***	**
Communications:							
Explanations of procedures	.07	-.05	-.20 ***	-.10 *	.13 **	.10 **	.11 **
Advice to stay healthy	.12 **	-.09 *	-.18 ***	-.09 *	.14 ***	.08	.11 **
Attention to what you say	.08 *	-.06	-.18 ***	-.06	.11 **	.12 **	.10 **

TABLE 11. (CONTINUED). Correlation Between Clinics and Independent/Utilization Variables

Variables	Outpatient Clinics						
	Internal Medicine	Pediatrics	Obstetrics/ Gynecology	Orthopedics	Cardiology	Dermatology	Medical Specialties
Choice and Continuity:							
Doctors to choose from	.05	-.02	-.10 *	-.06	.11 **	.05	.09 *
Seeing doctor of choice	.08 *	-.09 *	-.19 ***	-.13 **	.16 ***	.13 **	.15 ***
Choosing a personal doctor	.05	-.11 **	-.20 ***	-.09 *	.13 ***	.06	.12 **
Technical Quality:							
Examination and diagnosis	.09 *	-.05	-.20 ***	-.09 *	.15 ***	.08 *	.12 **
Skill - doctors	.06	-.10 *	-.20 ***	-.01	.13 **	.12 **	.13 ***
Skill - other staff	.12 **	-.08 *	-.09 *	-.04	.06	.05	.03
Thoroughness of treatment	.09 *	-.08 *	-.20 ***	-.07	.14 ***	.09 *	.14 ***
Outcomes:							
How much you are helped	.08 *	-.02	-.18 ***	-.06	.12 **	.13 **	.10 **
Overall quality of care	.09 *	-.09 *	-.23 ***	-.06	.13 **	.12 **	.11 **
Same Provider	-.14 ***	.16 ***	.31 ***	.04	-.11 **	-.10 **	-.17 ***
Appointment Waiting Time:							
2 days or less	-.03	.13 **	-.11 **	-.05	.05	.00	-.02
3 days - 1 week	-.02	-.01	-.04	-.07	.00	.00	-.05
1 - 2 weeks	-.04	.03	.06	.11 **	-.11 **	-.08 *	-.04
3 - 4 weeks	.09 *	-.07 *	.09 *	-.04	.14 ***	.03	.09 *
5 - 6 weeks	.00	-.06	-.04	.02	-.04	.09 *	.01
> 6 weeks	-.03	-.02	-.06	.04	-.06	.04	.08 *
Waiting Time to be Seen:							
< 10 minutes	-.03	-.04	-.07	.05	.02	.09 *	.05
10 - 15 minutes	-.03	-.05	-.11 **	-.07	-.01	.13 **	.07
16 - 30 minutes	.07	-.01	-.01	.02	.02	-.04	-.03
31 - 45 minutes	.00	.05	.08 *	.01	.06	-.06	-.02
46 - 60 minutes	-.05	.03	.14 ***	-.01	-.09 *	-.06	-.02
> 60 minutes	-.03	.06	.01	.06	-.04	-.05	-.06

* $p < .05$, ** $p < .01$, *** $p < .001$; two-tailed significance.

positively correlated at "2 days or less" (r = .13, p <.01) but became significantly negatively correlated at "3 - 4 weeks" (r = -.07, p <.05).

Additional significant negative correlations exited for pediatrics in the Technical Quality and Outcomes dimensions as well.

Obstetrics and Gynecology was negatively and significantly correlated with all independent variables, except for the items measuring the dimension of Finances. The highest negative correlations (r's < .001) included all variables in the dimensions of Interpersonal Care, Communications, and Outcomes.

Orthopedics was negatively and significantly correlated with several independent variables. These variables were Emergency care (r = -.08, p <.05), Waiting time at office (r = -.07, p <.05), Doctors and medical staff (r = -.08, p <.05), Personal interest shown (r = -.07, p <.05), Explanation of procedures (r = -.10, p <.05), Advice to stay healthy (r = -.09, p <.05), seeing doctor of you choice (r = -.13, p <.01), Choosing a personal doctor (r = -.09, p <.05), and Examination and diagnosis (r = -.09, p <.05). The one significant and positive correlation with Orthopedics was in the Appointment waiting time area of "1 - 2 weeks"(r = .11, p <.01).

Dermatology and Medical Specialties correlated positively and significantly with a number of independent variables. The highest correlation between Dermatology and

the independent variables were in the dimensions of Access to Care, Interpersonal Communications, and Choice and Continuity. The highest correlations between Medical Specialties and the independent variables were in the dimensions of Access to Care and Communications.

Composite Scores & Independent Group t-Tests

In order to assess potential difference between the level of patient satisfaction from the baseline to the current year, the researcher computed independent group *t*-tests on both the dependent variables and the eight major dimensions of patient satisfaction. Figure 5 depicts this concept. In order to run these *t*-tests, I first had to compute composite scores for both year groups by dependent variable as well as by dimension.

Figure 5. Conceptual Depiction of Composite Group t-Tests

1993 Composite Average		1994 Composite Average
Independent Variabels		Independent Variabels
Access to Care	VS.	Access to Care
Physical Environment	VS.	Physical Environment
Finances	VS.	Finances
Interpersonal Care	VS.	Interpersonal Care
Communications	VS.	Communications
Choice and Community	VS.	Choice and Community
Technical Quality	VS.	Technical Quality
Outcomes	VS.	Outcomes
Dependent Variables		Dependent Variables
Overall Evaluation	VS.	Overall Evaluation
Overall Satisfaction	VS.	Overall Satisfaction
Things Could Be Better	VS.	Things Could Be Better
Care is Perfect	VS.	Care is Perfect
Dissatisfied with Some Things	VS.	Dissatisfied with Some Things

Of the eight t-tests on dimension, one dimension - Access to Care, was significant $t(1143) = 3.11$, $p = .002$. No other dimensions approached statistical significance. In order to determine which of the ten survey items within the dimension contributed to the significance, I computed t-tests on all ten items between year groups separately. Table 12 contains the results of those t-tests that were significant.

TABLE 12. Significant t-Test Results for the Survey Items within the Dimension - Access to Care

Convienience of location of TAMC

	N	Mean	Std Dev.	Std Error	df	t	Probability
1993	574	3.62	1.169	0.049	1131	-2.90	**0.0038**
1994	559	3.82	1.139	0.049			

Hours of operation of services at TAMC

	N	Mean	Std Dev.	Std Error	df	t	Probability
1993	574	3.69	1.025	0.043	1124	-2.39	**0.0169**
1994	552	3.84	0.973	0.041			

Access to hospital care if you need it

	N	Mean	Std Dev.	Std Error	df	t	Probability
1993	574	3.80	0.971	0.041	1052	-2.22	**0.0268**
1994	480	3.94	1.032	0.047			

Access to medical care in an emergency

	N	Mean	Std Dev.	Std Error	df	t	Probability
1993	574	3.67	1.145	0.048	1039	-2.66	**0.0079**
1994	467	3.86	1.189	0.055			

Arrangement for making appointments for medical care by phone

	N	Mean	Std Dev.	Std Error	df	t	Probability
1993	574	2.54	1.300	0.054	1118	-2.37	**0.0179**
1994	546	2.73	1.307	0.056			

Access to medical care whenever you need it

	N	Mean	Std Dev.	Std Error	df	t	Probability
1993	574	3.37	1.158	0.048	1110	-2.60	**0.0094**
1994	538	3.55	1.106	0.048			

CHAPTER IV

DISCUSSION

Industry agrees that satisfaction surveys are a rich source of patient information, demonstrated by the fact that many organizations utilize customer satisfaction ratings as crucial input to their organization's TQM and quality improvement monitoring processes. "However, researchers caution the interpretation of survey results (Abramowitz, Cote, & Berry 1987, McMillan 1987, and Fleming 1979) since subjective surveys are limited in determining the true degree of satisfaction because satisfaction ratings of hospital care, as with medical care, are typically over inflated" (Smith 1993). Nevertheless, respondent results varied significantly enough to point out areas where patients are generally satisfied and areas upon which Tripler may improve.

Current Level of Satisfaction

Dependent Variables

Overall, the majority of patients report that they are very satisfied with the medical care they received. In

fact, 55 percent of the respondents are delighted (i.e., responded "Very Good"/"Excellent") with the services Tripler provides. An additional 33 percent rated their overall evaluation with Tripler as "Good." While only 12 percent rated Tripler as "Fair"/"Poor", 45 percent of the respondents indicated that they were dissatisfied with some things about the medical care rendered at Tripler.

The concept of continuous process improvement is at the heart of TQM. While Tripler earned high marks from the outpatient customers, there appears to be - as in many organizations, ample room for improvement.

Independent Variables/Dimensions of Satisfaction

Overall, respondents reported favorable impressions in the eight dimensions of patients satisfaction contained in the survey instrument. Only one dimension, Choice and Continuity, fell below a mean score of 3 (Good). The highest results occurred in the dimension of Finances. Of those responding, patients mean scores rated Tripler in the "Very Good" to "Excellent" range on the issues of *protection against hardship due to medical expense* (4.23) and *arrangements to get medical care without financial problems* (4.21). Physical Environment scored a close second among the dimensions. The *Overall cleanliness, location of services, and waiting and treatment areas* also scored between "Very Good" and "Excellent."

The dimension of Choice and Continuity contained the lowest survey item mean scores. Patients score the items *choosing a personal doctor* (2.76) and *seeing the doctor of your choice* (2.97) between "Fair" and "Good". Access to Care survey item means ranged from "Fair" to "Very Good" and contained the next lowest ratings. Three items in this dimension scored means below 3, "Good". These survey items were, *making appointments by phone* (2.71), *waiting time for appointment visit* (2.85), and *waiting time at office* (2.91).

Only one survey item outside of the dimensions of Physical Environment and Finances scored a survey item mean above 4, "Very Good". This item was *doctors and medical staff* (4.06) in the Interpersonal Care dimension.

Demographic Items

Several demographic items correlated significantly with the respondents' reported overall satisfaction and evaluation. This study revealed that significant correlations exist between overall satisfaction/evaluation and the demographics of age, gender, racial background, pay grade, branch of service and beneficiary category. No significant correlation were found between overall satisfaction/evaluation and marital status or health status.

This study revealed that males were statistically more satisfied than females. This finding is supported by Smith's study (1993), but is contrary to the previously

reported findings which suggest that the reverse is typically found (Cleary, Keroy, Karapanos, & McMullen 1989), as previously pointed out by Smith.

A key difference between previous studies and this and Smith's study is the level of care received by the males. The active duty military is still predominately male. Active duty military gets priority care and, hence, may report higher levels of satisfaction. Further research may reveal greater information on this phenomena.

Patients between the ages of 21 and 39 responded as significantly less satisfied than the respondent population as a whole. Conversely, patients over the age of 60 were significantly more satisfied with care at Tripler.

Retired beneficiaries reported significantly higher levels of overall satisfaction while active duty members and their families report significantly lower levels of satisfaction. Within the active duty ranks, enlisted soldiers under the grade of E-6 were significantly less satisfied than all others. However, senior enlisted and commissioned field grade officers responded with significantly higher scores on overall patient satisfaction.

It is not surprising that beneficiary category, rank, and age all significantly correlate in the similar way. That is, older people tend to be of higher rank and represented the vast majority of retirees. Younger people tend to be of lower rank and currently serving on active duty, or they are a dependent family member.

The black cohort reported to be significantly less satisfied in both overall satisfaction and overall evaluation. However, no other racial background cohort responses differed significantly from the respondent population. Again, this finding replicates Smith's (1993). Smith reveals that others found the opposite to be the case. That is, minority groups tend to be less critical in their satisfaction of medical care (Fleming 1981). The survey instrument was not designed to gather information that would illuminate the underlying reasons for this finding.

Air Force members are significantly more satisfied with the care they receive here at Tripler. No other branch of service approached statistical significance.

Utilization Items

The utilization factors of seeing the same provider, waiting time to get an appointment, waiting time to be seen, and the clinic most frequently visited were highly statistically correlated with overall satisfaction and evaluation. Patients who reported seeing a different provider frequently rated significantly lower in satisfaction.

Patients who received an appointment within one week of requesting one were highly satisfied. Patients became significantly dissatisfied, however, when they were required to wait over three weeks. Once patients arrived for an

appointment, they were very satisfied if they were required to wait no longer than 15 minutes. Patients became intensely dissatisfied when they were required to wait longer than 30 minutes to be seen.

As reported by Smith (1993) the patient's level of satisfaction and overall evaluation varied significantly based on what clinic they reported to visit most frequently. This researcher shares Smith's concerns regarding the interpretation of these correlation's. One may be tempted to conclude that a visit to the Obstetrics and Gynecology Clinic resulted in a lower satisfaction and overall evaluation rating by a respondent. However, since young females tended to report lower satisfaction ratings across the board, this inference is far from conclusive. However, these clinic correlations point to areas that require additional study. Perhaps future administrative residents could develop specific survey instruments in an attempt to identify the causes of these higher correlations.

Baseline/Current Year Comparison

Findings from the current year study replicate, to a high degree, those reported by Smith (1993). Yet, mean scores to every single dependent and independent measure were numerically higher this year. However, in no instance were these higher means scores for the dependent variables statistically significant. An analysis of the 8 dimensions

of patient satisfaction revealed a statistical difference in the dimension - Access to Care.

Dependent Variables

The t-tests indicate that the current level of patient satisfaction has not significantly risen over the past year in terms of the dependent variables. This finding is consistent with the literature on implementing TQM processes in organizations. The literature suggest that several years are required before significant differences in satisfaction may be detected. Tripler's efforts have only been undertaken, in earnest, over the past eighteen months.

However, the means scores for all five of the dependent variables do show a numerical increase over last year. This is an encouraging sign and consistent with an continuous incremental approach the Japanese call Kaizen (Imai 1986).

Dimension of Patient Satisfaction

Patients reported a statistically significant increase in satisfaction regarding accessing care at Tripler. In determining which survey items accounted for this significance I encountered a problem. Six survey items contributed to the overall increase in this dimension. However, analyzing their meaning is problematic.

Higher mean scores on two of the dimensions (*Convenience of location of TAMC* and *Hours of operation of*

services) challenge meaningful interpretation. Perhaps a larger number of subjects responding to the survey this year live closer to Tripler than those who responded last year. There has been no alteration in the outpatient hours of operation over the past 12 months.

Mean scores for the survey items *Access to care if you need it, Access to medical care in an emergency, and Access to medical care whenever you need it*) have significantly increased from last year. It is more difficult to discount leadership initiatives in these areas. However, the only TQM initiative regarding access to care that has been enacted by the Quality Council is the formation of the Pap Smear Clinic.

Since males reported significantly higher levels of satisfaction than females, this explanation is far from conclusive. A more plausible explanation suggests that the national debate on health care reform has impressed upon the minds of Tripler's beneficiaries the access to care they actually have. Access to care for authorized beneficiaries stands in sharp contrast to the horror stories of hard working Americans loosing their jobs and, consequently, their health insurance. In comparison to no insurance, a 30-day waiting time for an appointment may no longer seem so bad.

The significant difference in the survey item *Arrangement for making appointments for medical care by phone* received a mean score of only 2.73, up from 2.54, but

still in the "Fair" range. This increase may be attributed to positive management efforts. This finding is tempered by the absence of more specific data regarding which aspects of making appointments by phone the patients were responding to. Clearly more work is need in this area to pull the mean score into a more acceptable range. However, the importance of progress in this area should not be understated or ignored.

Tripler appears to be moving in the right direction, patient satisfaction is higher in all areas surveyed. It is only significantly higher in the dimension of Access to Care. The fact that statistical significance was not found regarding the dependent variables is not surprising. TQM literature suggests that the transformation to a total quality organization can be characterized as a long term commitment with few tangible results at the onset (Berry 1990).

CHAPTER IV

CONCLUSIONS/RECOMMENDATIONS

Recall that almost 60 percent of 781 responding CEOs say they have a TQM/CQI program up and running. Of those who do not, 75 percent report that they plan to start one within the next year (Eubanks 1992). At some point-in-time these CEOs must be able to report back to their board of directors that their program is having a positive effect.

The customer satisfaction survey becomes a key indicator of the success of an organization's TQM/CQI effort. "Steiber and Krowinski (1990) report that more than 90 percent of all hospitals use some kind of survey to measure patient satisfaction. Of these hospitals, more than four out of five report that they use the survey instrument to assess the quality of care" (Smith 1993). There must be a method for continuous monitoring to provide true customer feed-back to an organization if TQM is to work. Without feed-back organizational leadership can not set priorities that are in line with their customers' wants, needs, and desires. Rather, TQM would start with rational objectives

and end with irrational results (Goodman, Bargatze, and Grimm 1994).

There were two primary purposes for this study. First, the researcher was asked to assess the current level of patient satisfaction at Tripler. Next, the researcher was asked to compare these findings with the baseline results obtained by Major Smith in 1993 to see if there has been an increase in patient satisfaction over time. This study satisfies both purposes.

In fulfilling the purposes of the study I was able to further validate the use of the survey instrument. It proved to be both a reliable and valid method of obtaining this crucial satisfaction data. The survey instrument allowed the researcher to ascertain the current level of patient satisfaction and assess what aspects of the care Tripler provides that influences patient satisfaction. Further, this project was the first attempt to assess patient satisfaction over time and provides a "road map" for future evaluation of our TQM efforts.

There are several different ways to analyze the results of this survey. Customer satisfaction may be assessed utilizing more than just the dependent variables defined in this study. The independent variables (collapsed into their respective dimensions), demographic, and utilization items give a more comprehensive picture of what Tripler customers want and how they feel about the care they are receiving. The results of analyzing these factors led to certain

conclusions upon which recommendations to the hospital leadership may be based.

Conclusions based on the mean scores recorded for the dependent variables alone would provide little information to Tripler's leadership. As has been noted, the mean scores on all dependent measures have increased over the past year. This point alone suggests that small incremental improvements are being made. The fact that none of these increases are statistically significant reinforces the need for further assessments of satisfaction. Conclusions based on the dependent variables alone do not due justice to the wealth of information gathered by the survey vehicle. The survey question items, and the subsequent dimensions calculated from them, reveal additional useful information.

Results based on the dimension of patient satisfaction suggest that Tripler earns high marks on nearly every dimension of care surveyed. Most notably patients were extremely pleased with the current level of financial protection they enjoy against medical liability. Further, patients are pleased with the physical environment of Tripler, the waiting areas, and overall cleanliness of the facility.

However, Tripler earned relatively lower scores on the dimension of Choice and Continuity of care. Specifically, patients see themselves as not having a choice regarding the physicians they see. The Commanding General, Tripler, has already set in motion a major initiative to improve the

choice and continuity of care that beneficiaries may expect to receive. He acknowledges that Tripler currently delivers primary care in primary care and specialty clinics at Schofield Barracks, Pearl Harbor Clinic and several other Navy, Air Force and Coast Guard Clinics, and by Queens Health Care network under the TRICARE (managed care) contract. Additionally, some primary care is delivered to beneficiaries without them ever seeing any military affiliated provider under standard CHAMPUS. The general feels patients, at best, get fragmented and variable care in this system with non uniform health benefits provided by the different systems available. This leads to inefficiencies with some clinics having excess and unused capacity while others are overwhelmed. Further, when primary care is delivered in specialty clinics this limits the availability of specialty clinic appointments.

The Commanding General's vision is that all beneficiaries of DoD would know the primary care source available to them and what it will offer. If that source can not deliver the required level of treatment, then the patient would be passed by the system to the appropriate facility and provider for treatment, all within our managed care system. The patient is envisioned to be a player in the decisions. The system design will be seamless, facilitating smooth hand-offs that will be effortless and invisible to the patient. Bringing this vision to reality is entrusted to the Primary Care Executive Committee (PCEC). The

PCEC is developing this island-wide multi-service primary care plan to match each beneficiary family to a specific provider by name. After the primary care initiative is realized, another study should be conducted to assess its effect on this dimension.

Demographic items such as age, gender, racial background, pay grade, branch of service, and beneficiary category were all significantly correlated to some degree with overall satisfaction/evaluation. As has been noted, age, gender, and racial background findings have been seen in past and current literature (Baker 1983 and Cleary & McNeil 1988).

In an effort to identify if discriminatory practices are perceived among the respondents, I screened the responses to the open-ended questions. Of the 600 responses received to these questions, not a single response related any instances of prejudice on any of the demographic items. Perhaps negative impressions by certain demographic cohorts can be eased with more customer relations training.

Utilization items help identify practice parameter targets. Patients reported significantly high levels of satisfaction when they are given an appointment within one week. This may not be possible. However, further analysis reveals that patients only become intensely dissatisfied when they are required to wait more than three weeks for an appointment. Thus, if Tripler can adopt a target of making

appointments available within three weeks, far fewer patients would be dissatisfied.

Patients also reported that waiting time to be seen by the provider also has bearing on their satisfaction. Patients who are seen by providers within 15 minutes of their scheduled appointment time are thrilled. Conversely, those required to wait over 30 minutes report high levels of dissatisfaction. Any provider who meets with a customer who is already angry before he/she is ever seen has an uphill battle on his/her hands. The data suggests that Tripler should adopt a waiting time policy of no more than 30 minutes. Of course this is not possible in every service, but where it is possible it should be instituted. Where this is not possible, perhaps a focused study should be undertaken to ascertain the best method of appointing patients to these areas.

Military medicine has moved into an era where it competes with civilian health care facilities. Civilian Health and Medical Program with the Uniformed Services (CHAMPUS) eligible patients now vote with their feet. That is, if they are unsatisfied with the outpatient care they receive in the military facility they will opt for civilian institutions. This researcher feels that every customer we lose is tallied on the register and may be used in arguments against continuing a military health care system in the future. Market-oriented organizations use customer satisfaction surveys to cater to their needs. Customer satisfaction is generally assumed to enhance the rate at

which customers return, positive word-of-mouth advertising, and organizational loyalty (McMillian 1987). Customer satisfaction surveys alone are not enough.

Surveys only point to potential areas for hospital leadership to focus their attentions. Information flows to the leadership from many avenues. Placing too much emphasis on one particular tool, to the exclusion of all others is ill advised (Carey and Lloyd 1994). It is the responsibility of the leadership to use all available information for the benefit of the organization. Given that experts estimate the cost of poor quality to be 40 to 50 percent of the total production costs (Tishman 1992), a strong incentive exists for the organization to use such data when it is available.

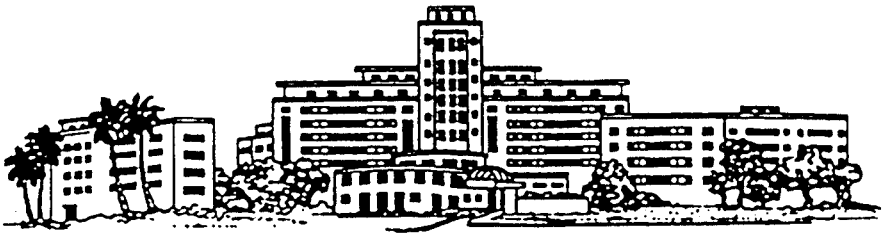
This information is important to more than just an organization's leadership. Senior managers can use the information when developing their division training plans, middle managers can use this data to make on-the-spot corrections when possible, and external customers should be briefed as to the results in an attempt to enhance public relations.

In conclusion, an assessment of customer satisfaction never represents an end to a process. As in any cybernetic system, feed-back is only one element in a methodology whose continuing goal is process improvement. Every available tool must be employed to guide Tripler down the correct path on her journey to total quality improvement.

APPENDIX 1

TRIPLER ARMY MEDICAL CENTER

PATIENT SATISFACTION SURVEY



TRIPLER ARMY MEDICAL CENTER

PATIENT SATISFACTION SURVEY

Dear Tripler Patient:

We at Tripler Army Medical Center are committed to providing you the highest quality health care possible, and your opinion is important to us as we look for ways to improve. Please take a few moments to complete and return this survey. Your honest and candid comments will help us evaluate how well we are meeting your needs and provide us with valuable information to determine where we can make necessary improvements or changes.

If you have any questions about this survey, please contact Captain Michael Kiefer, Administrative Resident, at (808) 433-3492 or by writing to Commander, Tripler Army Medical Center, ATTN: HSHK-DCA-A, Tripler HI 96859.

Thank you for your time and participation in this survey. Your comments are greatly appreciated as we strive to excel.

Sincerely,

James E. Hastings
Brigadier General, Medical Corps
Commanding General

PATIENT SATISFACTION SURVEY

Tripler Army Medical Center (TAMC) is looking for ways to improve the quality of the health care we provide. The purpose of this survey is to document how you feel about the medical care you receive at TAMC. Please answer all questions. Your answers will be held in strictest confidence. Mahalo.

---

1. How long have you personally used TAMC for health care? (Please circle your response.)

   1 Less than one year
   2 One to two years
   3 Three or more years

2. Overall, how would you evaluate the health care at TAMC. (Please circle the response that best describes your opinion.)

   1 Poor
   2 Fair
   3 Good
   4 Very Good
   5 Excellent

3. What percent of your health care do you receive through the following sources:

Tripler Army Medical Center (TAMC)	_____%
Other Military Treatment Facilities	_____%
CHAMPUS Prime, Extra or Standard	_____%
Private Insurance or Other Sources	_____%
	100 %

Thinking about your own health care, please circle the number using the following response scale that best expresses your opinion of Tripler Army Medical Center (TAMC):

1 = Poor	4 = Very Good
2 = Fair	5 = Excellent
3 = Good	6 = Have Not Used

ACCESS – Arranging For and Getting Care.

4. Convenience of location of TAMC	1	2	3	4	5	6
5. Hours of operation of services at TAMC	1	2	3	4	5	6
6. Access to specialty care if you need it	1	2	3	4	5	6
7. Access to hospital care if you need it	1	2	3	4	5	6
8. Access to medical care in an emergency	1	2	3	4	5	6
9. Arrangements for making appointments for medical care by phone	1	2	3	4	5	6
10. Length of time you wait at the office to see the doctor	1	2	3	4	5	6
11. Length of time you wait between making an appointment for routine care and the day of your visit	1	2	3	4	5	6
12. Availability of medical information or advice by phone	1	2	3	4	5	6
13. Access to medical care whenever you need it	1	2	3	4	5	6

1 = Poor; 2 = Fair; 3 = Good; 4 = Very Good; 5 = Excellent
(If you have not used a particular service, circle 6 = Have Not Used)

PHYSICAL ENVIRONMENT OF FACILITY

14. Overall cleanliness of the facility	1	2	3	4	5	6
15. Location of services and clinics you most frequently visit	1	2	3	4	5	6
16. Comfort and pleasantness of waiting rooms and treatment areas	1	2	3	4	5	6

FINANCES

17. Protection you have against hardship due to medical expenses	1	2	3	4	5	6
18. Arrangements for you to get medical care you need without financial problems	1	2	3	4	5	6

INTERPERSONAL CARE

19. Friendliness and courtesy shown to you by doctors and medical staff	1	2	3	4	5	6
20. Friendliness and courtesy shown to you by the administrative staff (e.g., receptionists)	1	2	3	4	5	6
21. Personal interest in you and your medical problem	1	2	3	4	5	6
22. Respect shown to you and attention to your privacy	1	2	3	4	5	6
23. Reassurance and support offered to you by doctors and medical staff	1	2	3	4	5	6
24. Amount of time you have with doctors and medical staff during a visit	1	2	3	4	5	6

1 = Poor; 2 = Fair; 3 = Good; 4 = Very Good; 5 = Excellent
(If you have not used a particular service, circle 6 = Have Not Used)

COMMUNICATIONS

25. Explanations of medical procedures and tests	1	2	3	4	5	6
26. Advice you get about ways to avoid illness and stay healthy	1	2	3	4	5	6
27. Attention given to what you say	1	2	3	4	5	6

CHOICE AND CONTINUITY

28. Number of doctors to choose from	1	2	3	4	5	6
29. Ease of seeing the doctor of your choice	1	2	3	4	5	6
30. Arrangements for choosing a personal doctor	1	2	3	4	5	6

TECHNICAL QUALITY

31. Thoroughness of examination and accuracy of diagnosis	1	2	3	4	5	6
32. Skill, experience, and training of doctors	1	2	3	4	5	6
33. Skill, experience, and training of other staff members	1	2	3	4	5	6
34. Thoroughness of treatment	1	2	3	4	5	6

OUTCOMES

35. The outcomes of your medical care (how much are you helped)	1	2	3	4	5	6
36. Overall quality of care and services	1	2	3	4	5	6

Thinking about your own health care, please circle the number using the following rating scale that best indicates how much you agree or disagree with each statement about Tripler Army Medical Center (TAMC):

PLEASE NOTE THAT THE RATING SCALE HAS CHANGED.

1 = Strongly Agree
2 = Agree
3 = Not Sure
4 = Disagree
5 = Strongly Disagree

37. I am very satisfied with the medical care I receive at TAMC	1	2	3	4	5
38. There are some things about the medical care I receive at TAMC that could be better	1	2	3	4	5
39. The medical care I have been receiving at TAMC is just about perfect	1	2	3	4	5
40. I am dissatisfied with some things about the medical care I receive at TAMC	1	2	3	4	5

For each of the following statements, please circle the number of the answer that best indicates your response.

41. If you do not receive the majority of your health care at TAMC, which <u>one</u> reason best explains why not.

1 TAMC lacks the services I need
2 TAMC is not conveniently located
3 I am not treated courteously
4 Providers are not thorough in their examinations
5 It seems I see a different provider each time
6 My schedule conflicts with appointment times offered
7 It is too difficult to get an appointment
8 I live too far away from TAMC
9 It takes too long to be seen
0 Other (please explain) _____
N/A Majority of care received at TAMC

42. During the last 12 months, how many admissions (stayed OVERNIGHT at TAMC) did you and other members of your family have for medical care? (Please circle two responses.)

<u>You Personally</u>	<u>Other Family Members</u>
1 None	1 None
2 One	2 One
3 Two to four	3 Two to four
4 Five to nine	4 Five to nine
5 Ten or more	5 Ten or more
	N/A No other family members

43. During the last 12 months, how many outpatient visits did you and other members of your family have at TAMC? (Please circle two responses.)

<u>You Personally</u>	<u>Other Family Members</u>
1 None	1 None
2 One visit	2 One visit
3 Two to four visits	3 Two to four visits
4 Five to nine visits	4 Five to nine visits
5 Ten or more visits	5 Ten or more visits
	N/A No other family members

44. How long do you usually have to wait between the time you make an appointment for care and the day you actually see the provider at TAMC?

1 Two days or less
2 Three days to one week
3 One to two weeks
4 Three to four weeks
5 Five to six weeks
6 Seven or more weeks
7 Does not apply, I have not used

45. How long do you usually have to wait to see your provider when you have an appointment for care at TAMC?

1 Less than 10 minutes
2 10 to 15 minutes
3 16 to 30 minutes
4 31 to 45 minutes
5 46 to 60 minutes
6 More than 60 minutes
7 Does not apply, I have not used

46. When you go for medical care, how often do you see the same doctor at TAMC?

1 Always
2 Most of the time
3 Sometimes
4 Rarely
5 Never

47. What clinical specialties do you most frequently visit at TAMC? (Please circle all that apply.)

1 General Surgery
2 Internal Medicine
3 Pediatrics
4 Obstetrics/Gynecology
5 Orthopedics
6 Mental Health
7 Cardiology
8 Ear, Nose & Throat
9 Optometry
10 Other _____

PERSONAL INFORMATION

The following information is requested for comparison of group responses and only group summaries will be reported in our findings.

48. What is your personal health status?

    1 Excellent
    2 Very good
    3 Good
    4 Fair
    5 Poor

49. What is your age group as of your last birthday?

    1 Less than 21 years
    2 21 - 29 years
    3 30 - 39 years
    4 40 - 49 years
    5 50 - 59 years
    6 60 years or more

50. Are you male or female?

    1 Male
    2 Female

51. Which of the following best describes your racial background?

    1 White
    2 Black
    3 Asian
    4 Pacific Islander
    5 American Indian, Aleut, Eskimo

52. Are you of Hispanic or Spanish origin or descent?

    1 Yes
    2 No

53. Specify your own pay grade if you are active duty or retired or the pay grade of your sponsor if you are a family member. (Please circle only one response).

1 E1	10 WO1	14 01
2 E2	11 CW2	15 02
3 E3	12 CW3	16 03
4 E4	13 CW4	17 04
5 E5		18 05
6 E6		19 06
7 E7		20 07+
8 E8		
9 E9		

54. Specify your branch of military service if you are active duty or retired or the branch of your sponsor if you are a family member.

1 Army
2 Navy
3 Air Force
4 Marine
5 Coast Guard

55. Which category of beneficiary best describes you?

1 Service member on active duty
2 Family member of active duty service member
3 Retired service member
4 Family member of retired service member
5 Family member of deceased service member
6 Veteran Affairs (VA) beneficiary

56. Which of the following best describes your current marital status?

1 Never married, single
2 Married
3 Separated
4 Divorced
5 Widowed

OPTIONAL QUESTIONS

We are interested in what you think. The following questions are optional but we would appreciate any additional information you would like to provide us or comments you would like to make.

57. What two things do you like the most about TAMC?

_____

_____

_____

58. What two things might we improve at TAMC?

_____

_____

_____

59. Any additional comments you would like to make.

_____

_____

_____

Thank You for your cooperation
and for helping us to care!

Please place in the enclosed self-addressed envelope and mail to Commander, Tripler Army Medical Center, ATTN: HSHK-DCA-A (CPT Kiefer), Tripler, HI 96859.

APPENDIX 2

SURVEY NOTIFICATION & FOLLOW-UP LETTERS

DEPARTMENT OF THE ARMY
HEADQUARTERS, TRIPLER ARMY MEDICAL CENTER
TRIPLER AMC, HAWAII 96859-5000

REPLY TO
ATTN OF

Commanding General

You have been selected to participate in a special survey of our patients residing in the local area. Within the next few days, you will receive a patient satisfaction survey in the mail. This survey is part of our continuing efforts to improve the quality of the care provided to you at Tripler Army Medical Center.

We are only sending this survey to a specified sample of our patient population, and I am counting on your support. Your willingness to complete the survey and your honest opinion of our services are extremely important in knowing what we are doing right and determining where we can make necessary improvements or changes. I assure you the answers you provide will be kept strictly confidential.

When you receive the survey, please take a few minutes of your valuable time to read and answer all of the questions. The survey should only take approximately 10 to 15 minutes to complete.

My staff and I are very interested in your opinion. We appreciate your time and effort in helping us improve services for you and our community.

Sincerely,

James E. Hastings
Brigadier General, Medical Corps
Commanding General

DEPARTMENT OF THE ARMY
HEADQUARTERS, TRIPLER ARMY MEDICAL CENTER
TRIPLER AMC, HAWAII 96859-5000

REPLY TO
ATTN OF

Administrative Resident

A few weeks ago you should have received a letter from Brigadier General James E. Hastings and a Tripler Army Medical Center Patient Satisfaction Survey booklet.

If you have already returned the survey, please accept our special thanks. If you have not had an opportunity to complete the survey, please do so today and return it by February 7th. Your participation in this survey and honest opinion of our services are extremely important to us.

If you did not receive the patient satisfaction survey or have misplaced it, please call 433-3492 and I will be happy to send you another one immediately.

Again, thank you for your time and effort in helping us improve services for you and our community.

Sincerely,

Michael L. Kiefer
Captain, Medical Sevice
Administrative Resident

APPENDIX 3

FREQUENCY DISTRIBUTIONS .TABLES

AND HISTOGRAMS

FREQUENCY DISTRIBUTION TABLES

AND HISTOGRAMS

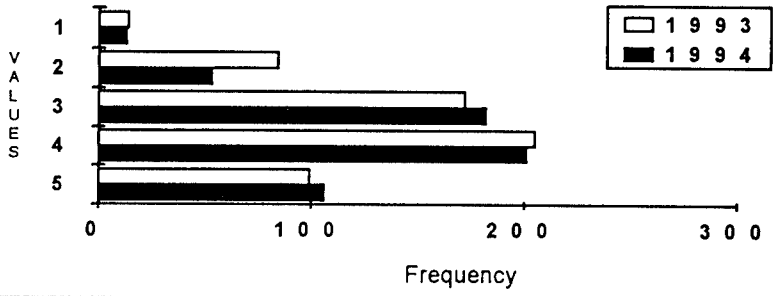
Table

TABLE 6-1. Frequency Distributions for Dependent Variables

SURVEY QUESTION #2. Overall, how would you evaluate the health care at TAMC?

	Value	Frequency	Percent	Cumulative Percent	
1	1	14	2	2	
9	2	84	15	17	
9	3	172	30	47	
3	4	205	36	83	Valid Cases
	5	99	17	100	574

	Value	Frequency	Percent	Cumulative Percent	
1	1	13	2	2	
9	2	53	10	12	
9	3	182	33	45	
4	4	201	36	81	Valid Cases
	5	106	19	100	555



*SURVEY QUESTION #37. I am very satisfied with the care I receive at TAMC.

	Value	Frequency	Percent	Cumulative Percent	
1	1	20	3	3	
9	2	63	11	14	
9	3	64	11	26	
3	4	262	46	71	Valid Cases
	5	164	29	100	573

	Value	Frequency	Percent	Cumulative Percent	
1	1	17	3	3	
9	2	48	8	11	
9	3	56	10	21	
4	4	279	49	71	Valid Cases
	5	167	29	100	567

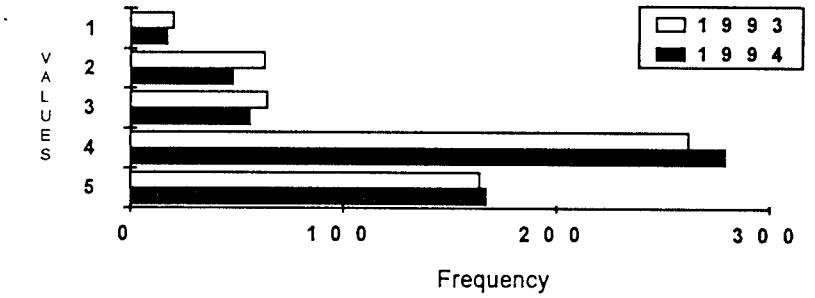
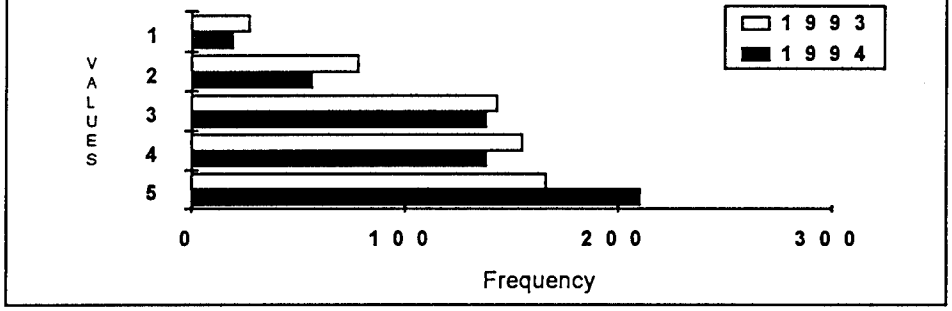


TABLE 6-1 (CONTINUED). Frequency Distributions for Dependent Variables

*SURVEY QUESTION #38. There are some things about the medical care I receive at TAMC that could be better.

	Value	Frequency	Percent	Cumulative Percent	
1	1	22	4	4	
9	2	65	11	15	
9	3	85	15	30	
3	4	236	41	71	Valid Cases
	5	163	28	100	571

	Value	Frequency	Percent	Cumulative Percent	
1	1	24	4	4	
9	2	66	12	16	
9	3	100	18	33	
4	4	233	41	75	Valid Cases
	5	142	25	100	565



*SURVEY QUESTION #39. The medical care I receive at TAMC is just about perfect.

	Value	Frequency	Percent	Cumulative Percent	
1	1	49	9	9	
9	2	139	24	33	
9	3	118	21	53	
3	4	188	33	86	Valid Cases
	5	78	14	100	572

	Value	Frequency	Percent	Cumulative Percent	
1	1	42	7	7	
9	2	122	22	29	
9	3	126	22	51	
4	4	207	37	88	Valid Cases
	5	67	12	99	564

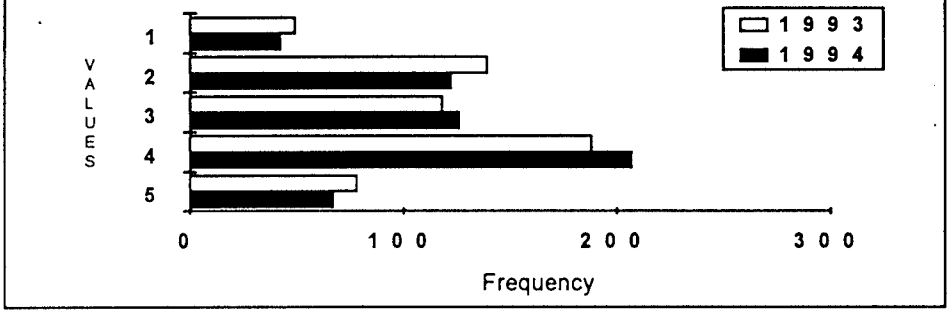
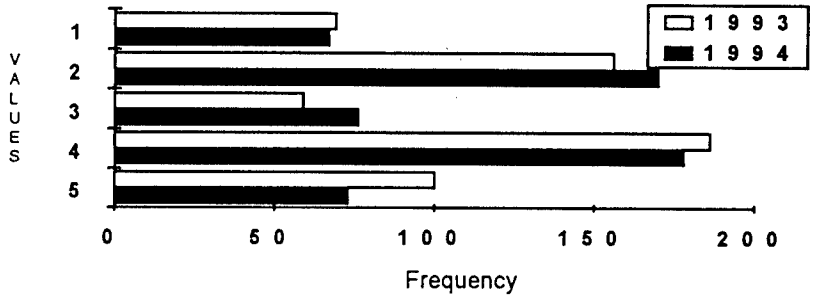


TABLE 6-1 (CONTINUED). Frequency Distributions for Dependent Variables

*SURVEY QUESTION #40. I am dissatisfied with some things about the medical I receive at TAMC.

	Value	Frequency	Percent	Cumulative Percent	
1	1	69	12	12	
9	2	156	27	39	
9	3	59	10	50	
3	4	186	32	82	Valid Cases
	5	100	17	99	570

	Value	Frequency	Percent	Cumulative Percent	
1	1	67	12	12	
9	2	170	30	42	
9	3	76	13	55	
4	4	178	31	86	Valid Cases
	5	73	13	99	564



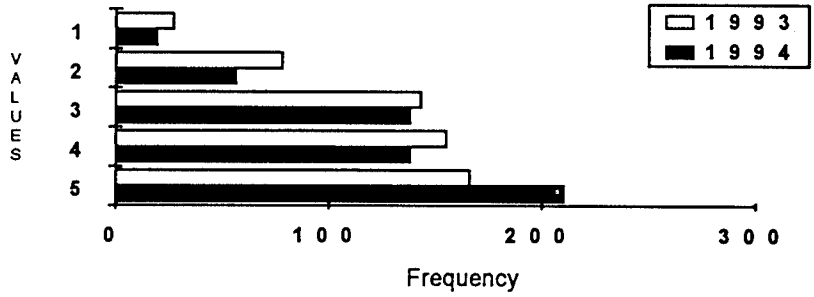
* Survey questions 37, 38, 39, and 40 were reflected during data analysis so that 5 = Strongly Agree, 4 = Agree, 3 = Not Sure, 2 = Disagree, 1 = Strongly Disagree

TABLE 6-2. Frequency Distributions for Independent Variables - Access to Care

SURVEY QUESTION #4. Convenience of location of TAMC.

	Value	Frequency	Percent	Cumulative Percent	
1	1	27	5	5	
9	2	78	14	18	
9	3	143	25	43	
3	4	155	27	70	Valid Cases
	5	166	29	99	569

	Value	Frequency	Percent	Cumulative Percent	
1	1	19	3	3	
9	2	56	10	13	
9	3	138	24	38	
4	4	138	24	62	Valid Cases
	5	210	37	99	561



SURVEY QUESTION #5. Hours of operation of services at TAMC.

	Value	Frequency	Percent	Cumulative Percent	
1	1	13	2	2	
9	2	57	10	12	
9	3	166	29	41	
3	4	185	32	73	Valid Cases
	5	145	25	99	566

	Value	Frequency	Percent	Cumulative Percent	
1	1	9	2	2	
9	2	37	7	8	
9	3	149	26	34	
4	4	198	35	69	Valid Cases
	5	159	28	97	552

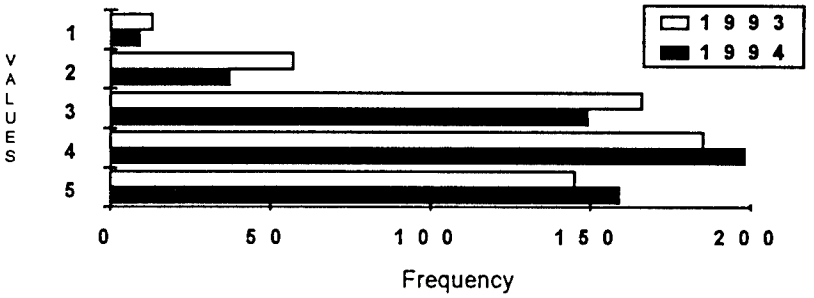
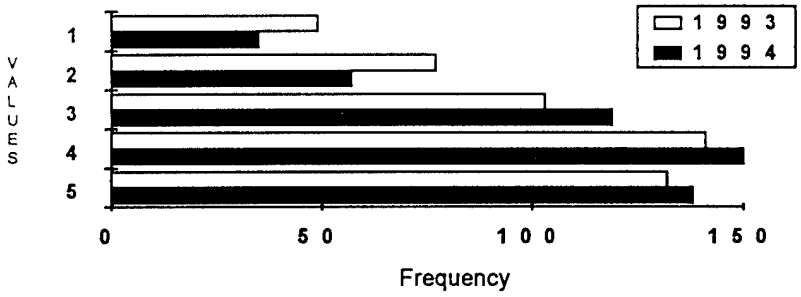


TABLE 6-2 (CONTINUED). Frequency Distributions for Independent Variables - Access to Care

SURVEY QUESTION #6. Access to specialty care if you need it.

	Value	Frequency	Percent	Cumulative Percent	
1	1	49	9	9	
9	2	77	13	22	
9	3	103	18	40	
3	4	141	25	65	Valid Cases
	5	132	23	88	502

	Value	Frequency	Percent	Cumulative Percent	
1	1	35	6	6	
9	2	57	10	16	
9	3	119	21	37	
4	4	150	26	64	Valid Cases
	5	138	24	88	499



SURVEY QUESTION #7. Access to hospital care if you need it.

	Value	Frequency	Percent	Cumulative Percent	
1	1	14	2	2	
9	2	41	7	10	
9	3	119	21	30	
3	4	150	26	57	Valid Cases
	5	150	26	83	474

	Value	Frequency	Percent	Cumulative Percent	
1	1	14	2	2	
9	2	27	5	7	
9	3	105	19	26	
4	4	161	28	54	Valid Cases
	5	173	31	85	480

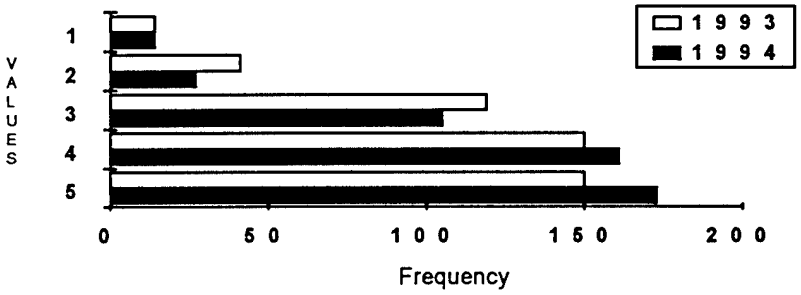
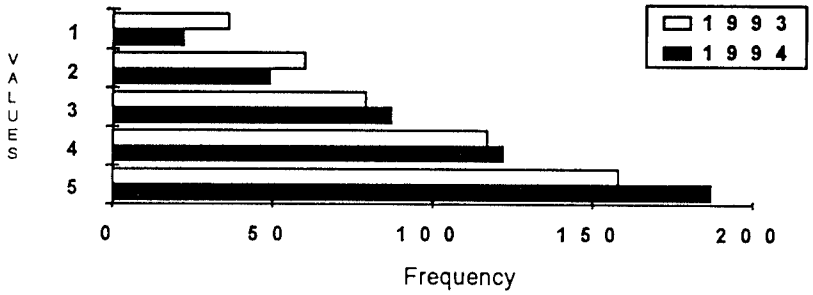


TABLE 6-2 (CONTINUED). Frequency Distributions for Independent Variables - Access to Care

SURVEY QUESTION #8. Access to medical care in an emergency.

	Value	Frequency	Percent	Cumulative Percent	
1	1	36	6	6	
9	2	60	10	17	
9	3	79	14	31	
3	4	117	20	51	Valid Cases
	5	158	28	79	450

	Value	Frequency	Percent	Cumulative Percent	
1	1	22	4	4	
9	2	49	9	12	
9	3	87	15	28	
4	4	122	22	49	Valid Cases
	5	187	33	82	467



SURVEY QUESTION #9. Arrangements for making appointments for medical care by phone.

	Value	Frequency	Percent	Cumulative Percent	
1	1	162	28	28	
9	2	129	23	51	
9	3	119	21	72	
3	4	91	16	87	Valid Cases
	5	54	9	97	555

	Value	Frequency	Percent	Cumulative Percent	
1	1	128	22	22	
9	2	115	20	43	
9	3	142	25	68	
4	4	100	18	85	Valid Cases
	5	61	11	96	546

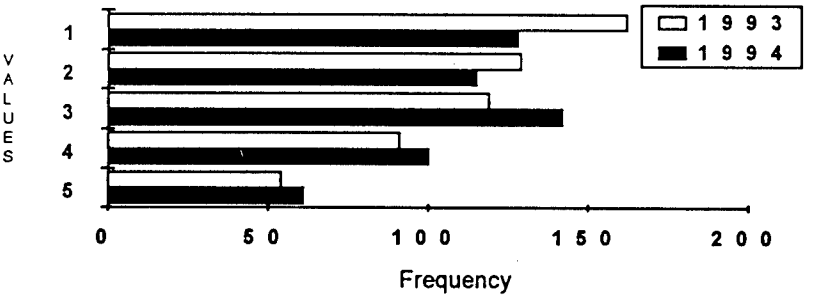
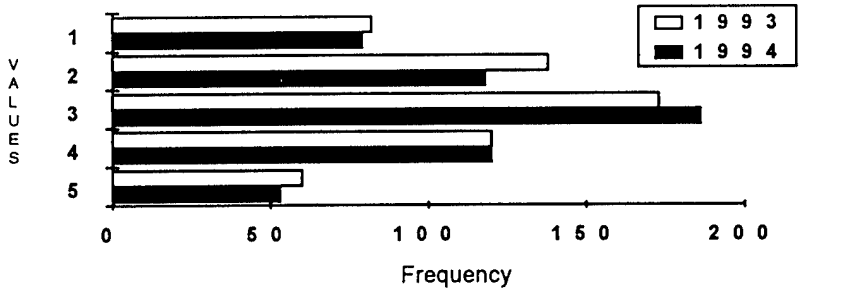


TABLE 6-2 (CONTINUED). Frequency Distributions for Independent Variables - Access to Care

SURVEY QUESTION #10. Length of time you wait at the office to see the doctor.

	Value	Frequency	Percent	Cumulative Percent	
1	1	82	14	14	
9	2	138	24	38	
9	3	173	30	69	
3	4	120	21	90	Valid Cases
	5	60	10	100	573

	Value	Frequency	Percent	Cumulative Percent	
1	1	79	14	14	
9	2	118	21	35	
9	3	186	33	67	
4	4	120	21	89	Valid Cases
	5	53	9	98	556



SURVEY QUESTION #11. Length of time you wait between making an appointment for routine care and the day of your visit.

	Value	Frequency	Percent	Cumulative Percent	
1	1	92	16	16	
9	2	147	26	42	
9	3	160	28	70	
3	4	106	18	88	Valid Cases
	5	49	9	97	554

	Value	Frequency	Percent	Cumulative Percent	
1	1	85	15	15	
9	2	108	19	34	
9	3	187	33	67	
4	4	117	21	87	Valid Cases
	5	40	7	95	537

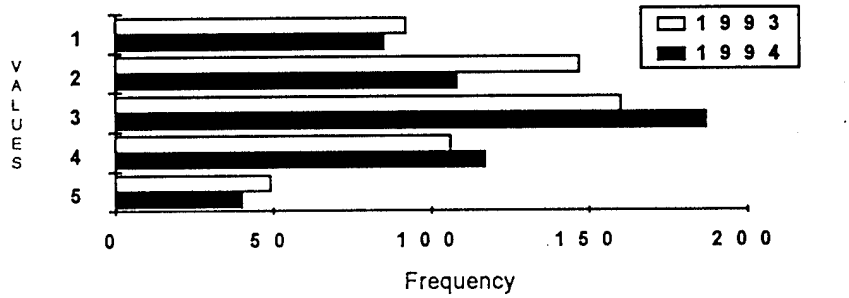
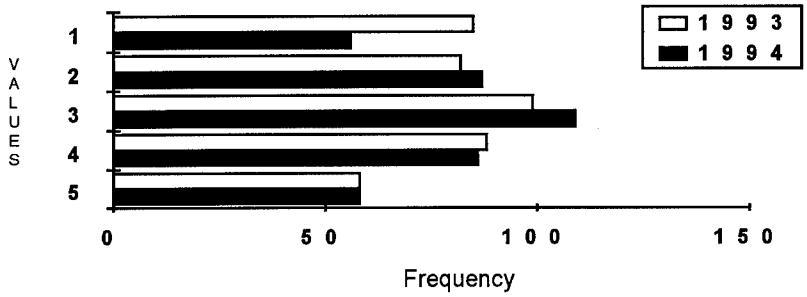


TABLE 6-2 (CONTINUED). Frequency Distributions for Independent Variables - Access to Care

SURVEY QUESTION #12. Availability of medical information or advice by phone.

	Value	Frequency	Percent	Cumulative Percent	
1	1	85	15	15	
9	2	82	14	29	
9	3	99	17	46	
3	4	88	15	62	Valid Cases
	5	58	10	72	412

	Value	Frequency	Percent	Cumulative Percent	
1	1	56	10	10	
9	2	87	15	25	
9	3	109	19	44	
4	4	86	15	60	Valid Cases
	5	58	10	70	396



SURVEY QUESTION #13. Access to medical care whenever you need it.

	Value	Frequency	Percent	Cumulative Percent	
1	1	33	6	6	
9	2	105	18	24	
9	3	152	27	51	
3	4	142	25	75	Valid Cases
	5	117	20	96	549

	Value	Frequency	Percent	Cumulative Percent	
1	1	24	4	4	
9	2	65	11	16	
9	3	166	29	45	
4	4	159	28	73	Valid Cases
	5	125	22	95	539

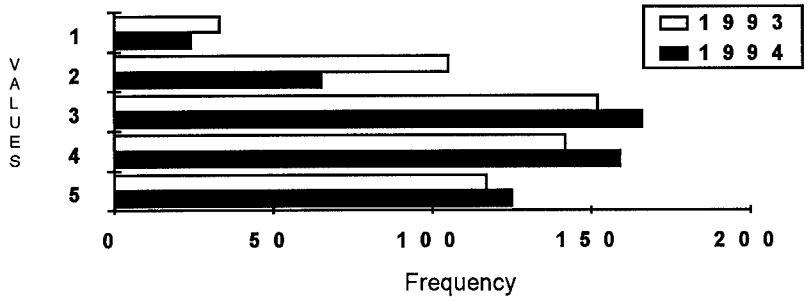
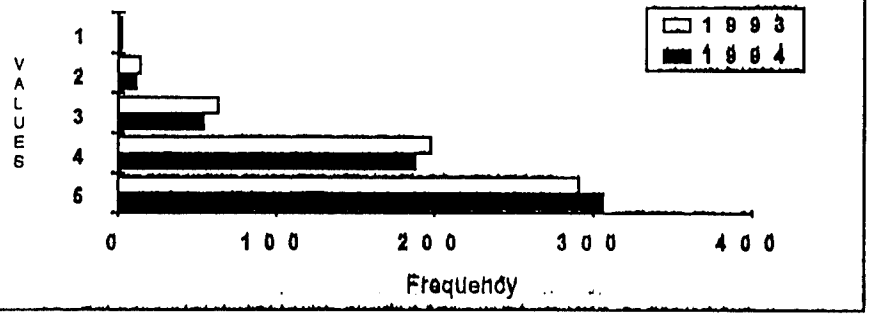


TABLE 6-3. Frequency Distributions for Independent Variables - Physical Environment

SURVEY QUESTION #14. Overall cleanliness of the facility.

	Value	Frequency	Percent	Cumulative Percent	
1	1	2	0	0	
9	2	14	2	3	
9	3	63	11	14	
3	4	198	35	48	Valid Cases
	5	291	51	99	568

	Value	Frequency	Percent	Cumulative Percent	
1	1	2	0	0	
9	2	11	2	2	
9	3	54	10	12	
4	4	188	33	45	Valid Cases
	5	306	54	99	561



SURVEY QUESTION #15. Location of services and clinics you most frequently visit.

	Value	Frequency	Percent	Cumulative Percent	
1	1	4	1	1	
9	2	24	4	5	
9	3	145	25	30	
3	4	215	38	68	Valid Cases
	5	177	31	99	565

	Value	Frequency	Percent	Cumulative Percent	
1	1	6	1	1	
9	2	28	5	6	
9	3	115	20	26	
4	4	229	40	67	Valid Cases
	5	179	32	98	557

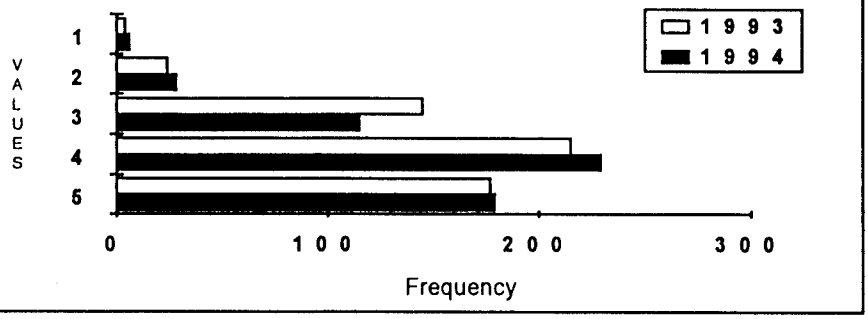


TABLE 6-3 (CONTINUED). Frequency Distributions for Independent Variables - Physical Environment

SURVEY QUESTION #16. Comfort and pleasantness of waiting rooms and treatment areas.

	Value	Frequency	Percent	Cumulative Percent	
1	1	8	1	1	
9	2	43	8	9	
9	3	122	21	30	
3	4	217	38	68	Valid Cases
	5	180	31	99	570

	Value	Frequency	Percent	Cumulative Percent	
1	1	6	1	1	
9	2	37	7	8	
9	3	125	22	30	
4	4	205	36	66	Valid Cases
	5	191	34	99	564

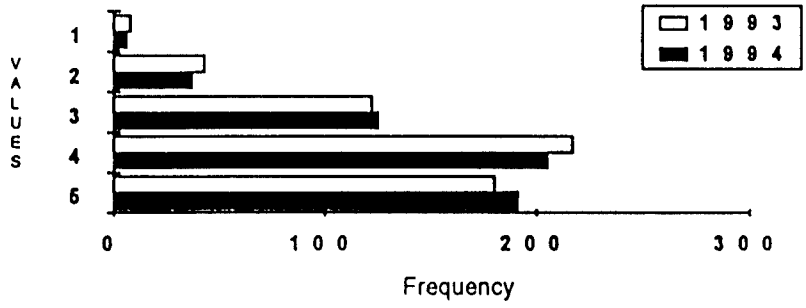
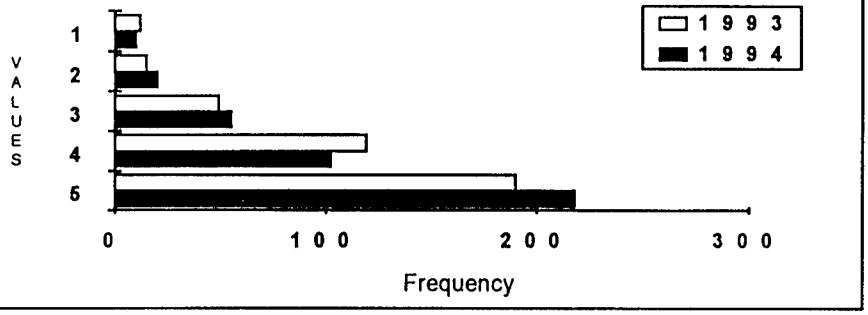


TABLE 6-4. Frequency Distributions for Independent Variables - Finances

SURVEY QUESTION #17. Protection you have against hardship due to medical expenses

	Value	Frequency	Percent	Cumulative Percent	
1	1	12	2	2	
9	2	15	3	5	
9	3	49	9	13	
3	4	119	21	34	Valid Cases
	5	190	33	67	385

	Value	Frequency	Percent	Cumulative Percent	
1	1	10	2	2	
9	2	20	4	5	
9	3	55	10	15	
4	4	102	18	33	Valid Cases
	5	218	38	71	405



SURVEY QUESTION #18. Arrangements for you to get medical care you need without financial problems.

	Value	Frequency	Percent	Cumulative Percent	
1	1	11	2	2	
9	2	19	3	5	
9	3	40	7	12	
3	4	121	21	33	Valid Cases
	5	187	33	66	378

	Value	Frequency	Percent	Cumulative Percent	
1	1	9	2	2	
9	2	20	4	5	
9	3	54	10	15	
4	4	98	17	32	Valid Cases
	5	202	36	68	383

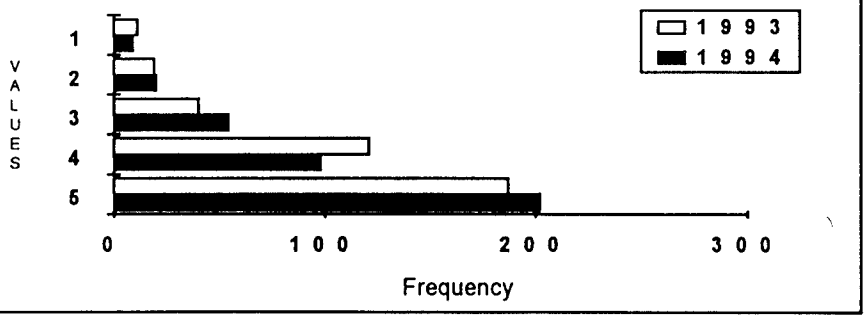
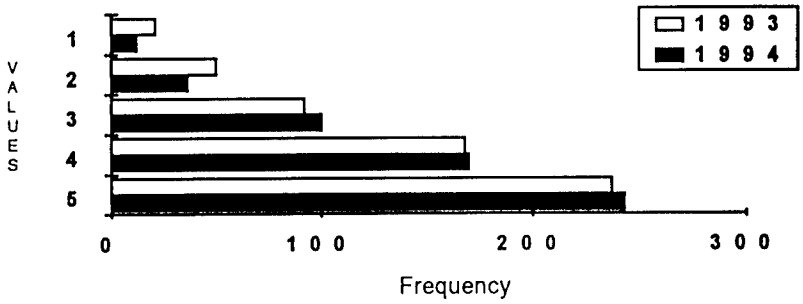


TABLE 6-5. Frequency Distributions for Independent Variables - Interpersonal Care

SURVEY QUESTION #19. Friendliness and courtesy shown to you by doctors and medical staff.

	Value	Frequency	Percent	Cumulative Percent	
1	1	21	4	4	
9	2	50	9	12	
9	3	92	16	28	
3	4	168	29	58	Valid Cases
	5	237	41	99	568

	Value	Frequency	Percent	Cumulative Percent	
1	1	12	2	2	
9	2	36	6	8	
9	3	100	18	26	
4	4	170	30	56	Valid Cases
	5	243	43	99	561



SURVEY QUESTION #20. Friendliness and courtesy shown to you by the administrative staff (e.g., receptionists).

	Value	Frequency	Percent	Cumulative Percent	
1	1	37	6	6	
9	2	59	10	17	
9	3	127	22	39	
3	4	170	30	69	Valid Cases
	5	173	30	99	566

	Value	Frequency	Percent	Cumulative Percent	
1	1	19	3	3	
9	2	58	10	14	
9	3	130	23	36	
4	4	178	31	68	Valid Cases
	5	173	31	98	558

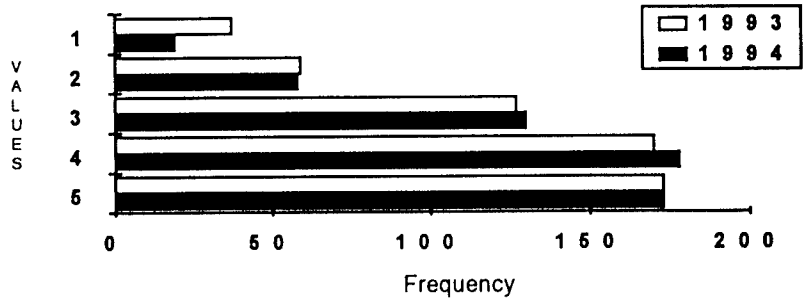
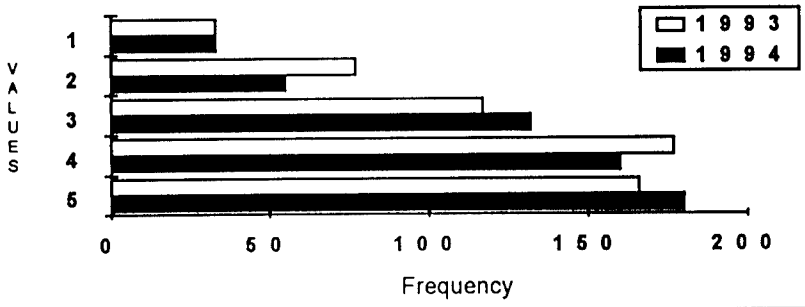


TABLE 6-5 (CONTINUED). Frequency Distributions for Independent Variables - Interpersonal Care

SURVEY QUESTION #21. Personal interest in you and your medical problem.

	Value	Frequency	Percent	Cumulative Percent	
1	1	33	6	6	
9	2	77	13	19	
9	3	117	20	40	
3	4	177	31	71	Valid Cases
	5	166	29	99	570

	Value	Frequency	Percent	Cumulative Percent	
1	1	33	6	6	
9	2	55	10	15	
9	3	132	23	39	
4	4	160	28	67	Valid Cases
	5	180	32	99	560



SURVEY QUESTION #22. Respect shown to you and attention to your privacy.

	Value	Frequency	Percent	Cumulative Percent	
1	1	26	5	5	
9	2	57	10	14	
9	3	112	20	34	
3	4	174	30	64	Valid Cases
	5	197	34	99	566

	Value	Frequency	Percent	Cumulative Percent	
1	1	26	5	5	
9	2	43	8	12	
9	3	99	17	30	
4	4	184	32	62	Valid Cases
	5	206	36	98	558

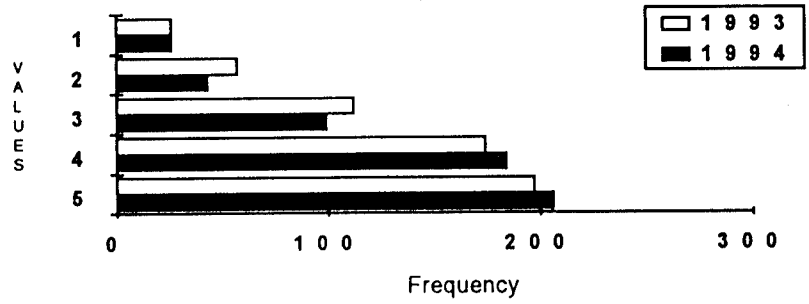
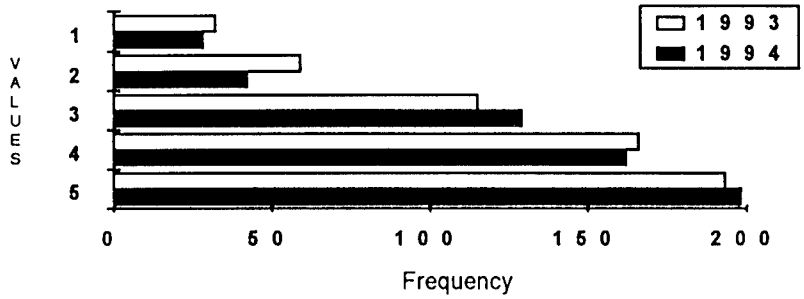


TABLE 6-5 (CONTINUED). Frequency Distributions for Independent Variables - Interpersonal Care

SURVEY QUESTION #23. Reassurance and support offered to you by doctors and medical staff during a visit.

	Value	Frequency	Percent	Cumulative Percent	
1	1	32	6	6	
9	2	59	10	16	
9	3	115	20	36	
3	4	166	29	65	Valid Cases
	5	193	34	99	565

	Value	Frequency	Percent	Cumulative Percent	
1	1	28	5	5	
9	2	42	7	12	
9	3	129	23	35	
4	4	162	29	64	Valid Cases
	5	198	35	99	559



SURVEY QUESTION #24. Amount of time you have with doctors and medical staff during a visit.

	Value	Frequency	Percent	Cumulative Percent	
1	1	45	8	8	
9	2	78	14	21	
9	3	140	24	46	
3	4	165	29	75	Valid Cases
	5	144	25	100	572

	Value	Frequency	Percent	Cumulative Percent	
1	1	38	7	7	
9	2	68	12	19	
9	3	133	23	42	
4	4	158	28	70	Valid Cases
	5	164	29	99	561

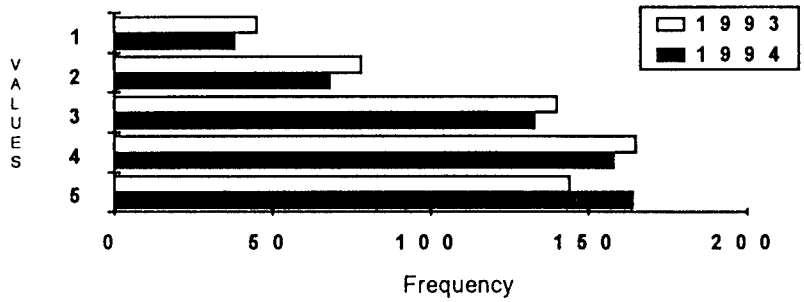
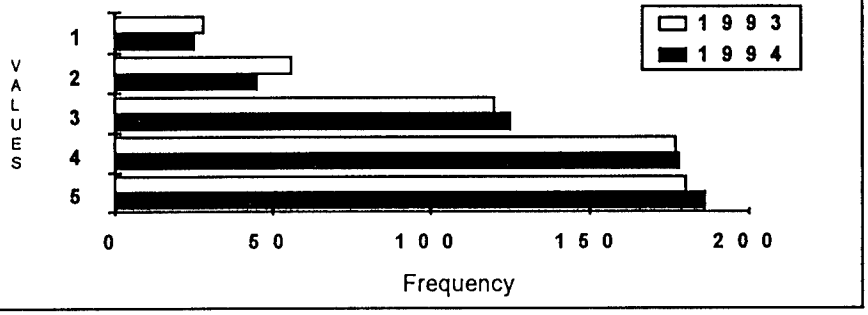


TABLE 6-6. Frequency Distributions for Independent Variables - Communications

SURVEY QUESTION #25. Explanations of medical procedures and tests.

	Value	Frequency	Percent	Cumulative Percent	
1	1	28	5	5	
9	2	56	10	15	
9	3	120	21	36	
3	4	177	31	66	Valid Cases
	5	180	31	98	561

	Value	Frequency	Percent	Cumulative Percent	
1	1	25	4	4	
9	2	45	8	12	
9	3	125	22	34	
4	4	178	31	66	Valid Cases
	5	186	33	99	559



SURVEY QUESTION #26. Advice you get about ways to avoid illness and stay healthy.

	Value	Frequency	Percent	Cumulative Percent	
1	1	35	6	6	
9	2	56	10	16	
9	3	135	24	39	
3	4	166	29	68	Valid Cases
	5	131	23	91	523

	Value	Frequency	Percent	Cumulative Percent	
1	1	30	5	5	
9	2	46	8	13	
9	3	128	23	36	
4	4	158	28	64	Valid Cases
	5	158	28	92	520

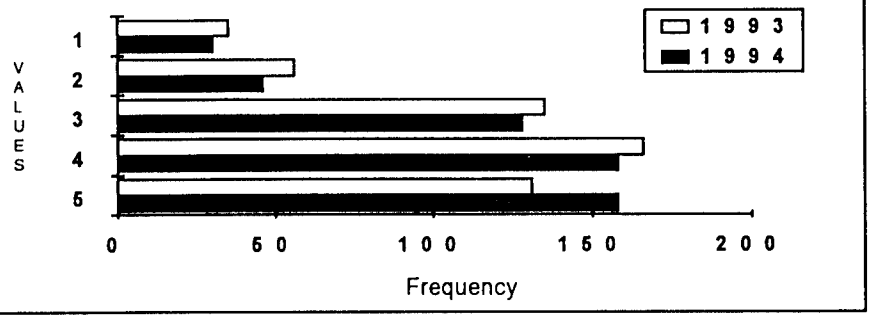


TABLE 6-6(CONTINUED). Frequency Distributions for Independent Variables - Communications

SURVEY QUESTION #27. Attention given to what you say.

	Value	Frequency	Percent	Cumulative Percent	
1	1	36	6	6	
9	2	82	14	21	
9	3	135	24	44	
3	4	173	30	74	Valid Cases
	5	137	24	98	563

	Value	Frequency	Percent	Cumulative Percent	
1	1	39	7	7	
9	2	64	11	18	
9	3	141	25	43	
4	4	170	30	73	Valid Cases
	5	146	26	99	560

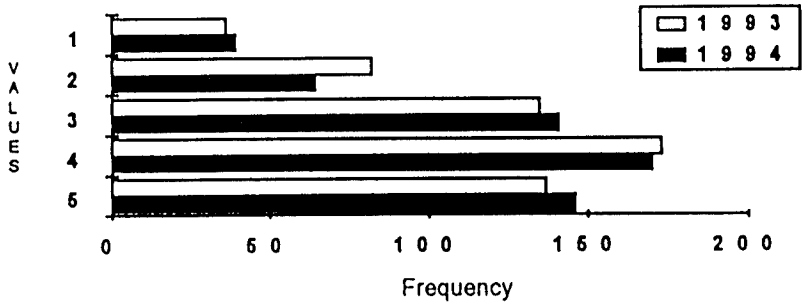
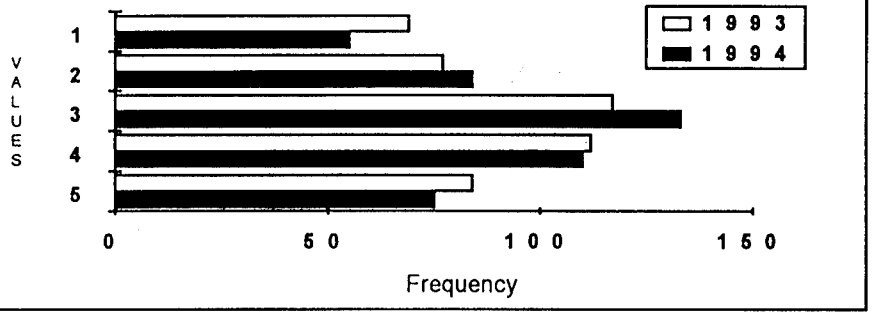


TABLE 6-7. Frequency Distributions for Independent Variables - Choice & Continuity

SURVEY QUESTION #28. Number of doctors to choose from.

	Value	Frequency	Percent	Cumulative Percent	
1	1	69	12	12	
9	2	77	13	25	
9	3	117	20	46	
3	4	112	20	65	Valid Cases
	5	84	15	80	459

	Value	Frequency	Percent	Cumulative Percent	
1	1	55	10	10	
9	2	84	15	24	
9	3	133	23	48	
4	4	110	19	67	Valid Cases
	5	75	13	80	457



SURVEY QUESTION #29. Ease of seeing the doctor of your choice.

	Value	Frequency	Percent	Cumulative Percent	
1	1	99	17	17	
9	2	89	16	33	
9	3	75	13	46	
3	4	102	18	64	Valid Cases
	5	78	14	77	443

	Value	Frequency	Percent	Cumulative Percent	
1	1	93	16	16	
9	2	78	14	30	
9	3	98	17	47	
4	4	100	18	65	Valid Cases
	5	75	13	78	444

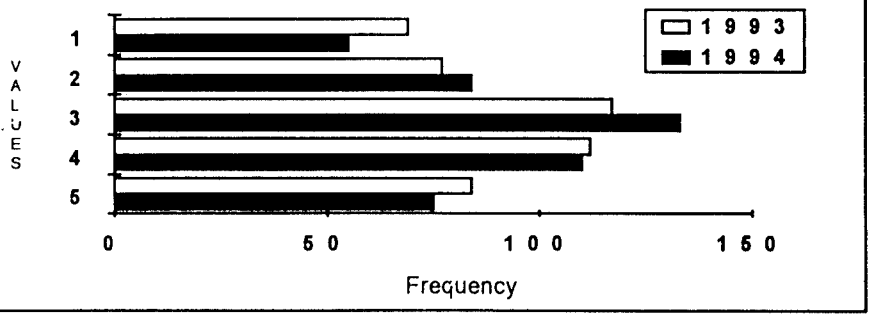


TABLE 6-7(CONTINUED). Frequency Distributions for Independent Variables - Choice & Continuity

SURVEY QUESTION #30. Arrangements for choosing a personal doctor.

	Value	Frequency	Percent	Cumulative Percent	
1	1	112	20	20	
9	2	58	10	30	
9	3	45	8	38	
3	4	74	13	50	Valid Cases
	5	50	9	59	339

	Value	Frequency	Percent	Cumulative Percent	
1	1	98	17	17	
9	2	71	13	30	
9	3	68	12	42	
4	4	66	12	53	Valid Cases
	5	58	10	63	361

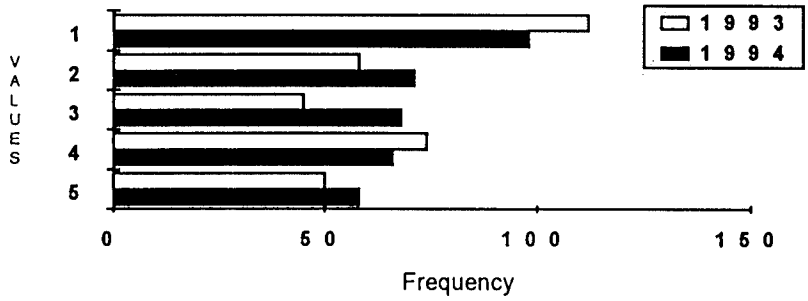
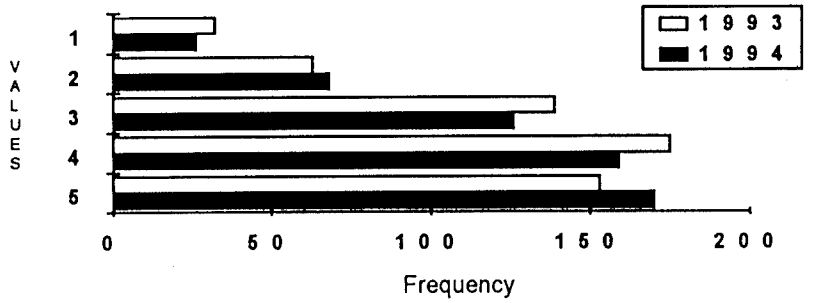


TABLE 6-8. Frequency Distributions for Independent Variables - Technical Quality

SURVEY QUESTION #31. Thoroughness of examination and accuracy of diagnosis.

	Value	Frequency	Percent	Cumulative Percent	
1	1	32	6	6	
9	2	63	11	17	
9	3	139	24	41	
3	4	175	31	71	Valid Cases
	5	153	27	98	562

	Value	Frequency	Percent	Cumulative Percent	
1	1	98	17	17	
9	2	71	13	30	
9	3	68	12	42	
4	4	66	12	53	Valid Cases
	5	58	10	63	361



SURVEY QUESTION #32. Skill, experience, and training of doctors.

	Value	Frequency	Percent	Cumulative Percent	
1	1	16	3	3	
9	2	56	10	13	
9	3	130	23	35	
3	4	187	33	68	Valid Cases
	5	173	30	98	562

	Value	Frequency	Percent	Cumulative Percent	
1	1	13	2	2	
9	2	44	8	10	
9	3	143	25	35	
4	4	170	30	65	Valid Cases
	5	176	31	96	546

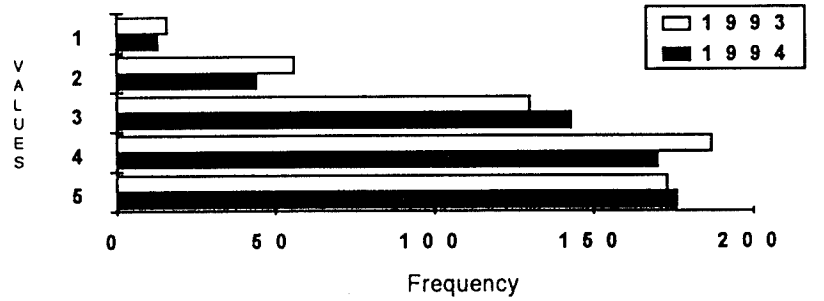
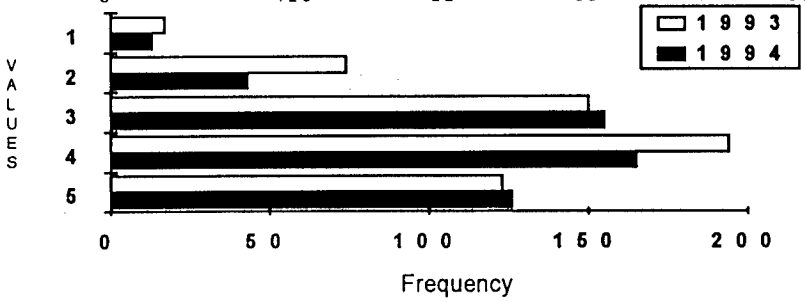


TABLE 6-8 (CONTINUED). Frequency Distributions for Independent Variables - Technical Quality

SURVEY QUESTION #33. Skill, experience, and training of other staff members.

	Value	Frequency	Percent	Cumulative Percent	
1	1	17	3	3	
9	2	74	13	16	
9	3	150	26	42	
3	4	194	34	76	Valid Cases
	5	123	21	97	558

	Value	Frequency	Percent	Cumulative Percent	
1	1	13	2	2	
9	2	43	8	10	
9	3	155	27	37	
4	4	165	29	66	Valid Cases
	5	126	22	89	502



SURVEY QUESTION #34. Thoroughness of treatment.

	Value	Frequency	Percent	Cumulative Percent	
1	1	17	3	3	
9	2	71	12	15	
9	3	135	24	39	
3	4	186	32	71	Valid Cases
	5	156	27	99	565

	Value	Frequency	Percent	Cumulative Percent	
1	1	21	4	4	
9	2	47	8	12	
9	3	140	25	37	
4	4	171	30	67	Valid Cases
	5	175	31	98	554

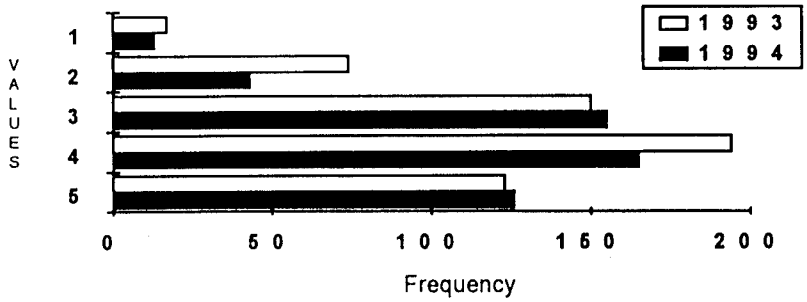
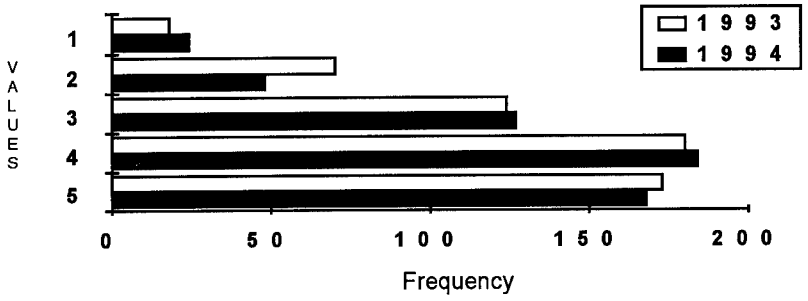


TABLE 6-9. Frequency Distributions for Independent Variables - Outcomes

SURVEY QUESTION #35. The outcomes of your medical care (how much are you helped).

	Value	Frequency	Percent	Cumulative Percent	
1	1	18	3	3	
9	2	70	12	15	
9	3	124	22	37	
3	4	180	31	68	Valid Cases
	5	173	30	99	565

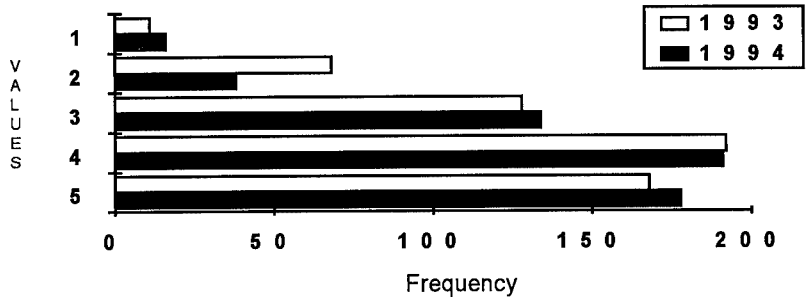
	Value	Frequency	Percent	Cumulative Percent	
1	1	24	4	4	
9	2	48	8	13	
9	3	127	22	35	
4	4	184	32	68	Valid Cases
	5	168	30	97	551



SURVEY QUESTION #36. Overall quality of care and services.

	Value	Frequency	Percent	Cumulative Percent	
1	1	11	2	2	
9	2	68	12	14	
9	3	128	22	36	
3	4	192	34	70	Valid Cases
	5	168	29	99	567

	Value	Frequency	Percent	Cumulative Percent	
1	1	16	3	3	
9	2	38	7	9	
9	3	134	24	33	
4	4	191	34	67	Valid Cases
	5	178	31	98	557



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